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New Cyber Charter Teachers' Perceptions of their Induction Program in Preparing them for
Online Instruction: A Mixed Methods Study

A Dissertation

Presented to the Faculty of the
College of Education and Social Work
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the Degree of
Doctor of Education

By
Courtney M. Kofeldt

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Dedication

I dedicate this dissertation to my incredibly supportive family. To my parents, you instilled in me a passion for education and a drive to always keep learning. Your endless support kept me going. Mom, you are always willing to drop everything to offer help and words of encouragement. I couldn't have done this without you! To my siblings, Kelly and Drew, you were always the best role models for me as I grew up. To my husband, John, your support and love mean so much to me. Elowyn Agnes, my daughter, this is for you. You were the force that helped me push through. I can already see your love for learning and books. I hope it only continues to flourish.

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Abstract

Those who teach online are often concerned with preservice or in-service teacher development, specifically the lack of specialized opportunities focusing on online instructional practices. Online educators have acknowledged that this focus is limited and that the induction years of beginning teachers are an important component of teacher development. This mixed-method sequential explanatory study focused on the induction years of cyber charter teachers. It examined their perceptions of their induction program with the intention of adding to the literature in this under-examined area (Creswell, 2013). Twenty new online teachers shared the perceptions of the induction program through Likert scale items on a questionnaire. The researcher utilized a series of ANOVAs for each of the dependent variables of interest, which were scored on the survey's different subscales. The qualitative phase involved a semi-structured focus group interview and journal entries designed to understand teachers' perceptions of their induction program (Creswell, 2013). The results suggested that the induction program's practical focus effectively prepares and builds confidence in new cyber charter teachers. Additionally, respondents indicated that same subject peers and mentor support as well as access to sandbox courses or practice courses contributed to their effective asynchronous lesson development preparation and synchronous lesson delivery.

Keywords: Induction, online, cyber, mixed methods, teacher training, teacher education

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Chapter 1: Introduction

The 21st-century educator's role is evolving to meet the demands of the "new" digital classroom (Trust, 2017). For decades, researchers have highlighted that teachers have been "ill-prepared to teach with technology" (Foulger et al., 2017, p. 418). Nationally, there is a shift to recognize online education as a viable alternative for students and families, but Pennsylvania seems to lack this same urgency to address these changes. Currently, state leaders have not created policies to support online educators' development and to ensure they have essential skills needed to teach online (Pazhouh et al., 2015).

Due to the threat of coronavirus disease (COVID-19) in the Spring of 2020, school districts faced the unprecedented challenge of continuing instruction and learning while also concentrating on their staff and students' safety. In response to COVID-19, many school districts resorted to emergency remote teaching to educate students in a safe environment. Emergency remote teaching (ERT) is a short-term instructional shift to an alternate modality due to crisis conditions (Hodges et al., 2020). In their ERT study, Hodges examined teachers who typically conducted their classes face-to-face or in a blended format who were then required to utilize online instruction. Under these conditions, the goal was to simply provide temporary availability of online instruction that is quick and reliable, not a robust online experience or environment (Hodges et al., 2020).

According to Hodges et al. (2020), before the COVID-19 global pandemic, the general population stigmatized online learning environments as lower quality than the traditional face-to-face environment, despite disputing research. The recent pandemic highlighted the significant gap in teacher preparation for emergency remote education and distance learning as a whole (Trust & Whalen, 2020). The absence of an established inclusion of digital pedagogy into

preservice teacher education curricula and field placement experiences at many universities further highlights this issue (Archambault & Kennedy, 2014). Preservice teachers who complete a preparation program that included course development techniques, authentic online assessments, and relationship-building strategies have a more extensive understanding of cyber education and a smoother transition into becoming online educators (Zweig & Stafford, 2016).

Since few preservice teacher education programs within universities include online components in their programs, cyber charter schools must prepare new teachers to design and confidently deliver online lessons. New cyber charter teachers experience not only the typical challenges and stressors associated with the first year of teaching, but they are also left to navigate a system they are unfamiliar with or thoroughly understand (Ingersoll & Strong, 2011). As defined in section 1703-A of Act 14, a Pennsylvania cyber charter school is an independent public school created and operated under a Pennsylvania Department of Education charter. The school leverages technology to deliver its curriculum and instruction to its students via the World Wide Web and other digital modalities (Pennsylvania Department of Education, Cyber Charter Schools, 2004).

Similar to what brick-and-mortar teachers experienced with ERT in Spring 2020, new cyber charter teachers are tasked with navigating new instructional design practices, learning management systems, and educational technology tools (Hodges et al., 2020). The success of the online learning environment directly correlates to teacher preparedness (Orcutt & Dringus, 2017). Novice online teachers need new skills such as technological literacy and specific time management strategies for online teaching. Cyber charter schools need to decide what skills to focus on and how they plan to prepare teachers to develop these competencies. When that preparation does not occur, teachers are not equipped with the necessary skills to design and

deliver effective and engaging online learning experiences to their students. Induction programs can help address these skills from the start of a new cyber teacher's career. Still, researchers have not thoroughly investigated effective induction programs and professional development for K-12 educators learning to design online courses (Shattuck, 2013).

Purpose of Study

This study explores the components of a new teacher induction program at a single cyber charter school in Pennsylvania, Cyber Charter School (CCS), and investigates how new teachers perceive their induction programs. I examined the impact of teacher perceptions of the induction program in preparing them to teach online by exploring their induction experiences. As the researcher, I will also be looking to understand best practices when it comes to training new cyber charter teachers. This information may help preservice teacher preparation programs effectively prepare novice teachers to reach learners in online learning environments.

Despite the substantial growth of student enrollment in cyber charter education in Pennsylvania, new teachers at cyber charter schools exhibit significant gaps in online learning and instruction knowledge. Cyber charter students' success directly correlates with teachers' preparedness to teach online (Sweig & Stafford, 2016). These gaps can be addressed with the adjustment of preservice teaching programs or through a cyber charter school's onboarding and induction programs. The purpose of this research is based on two factors: (a) the increased need to train new teachers for online instruction, and (b) the limitations of cyber charter teacher induction programs.

Rationale for Study

In this study, I investigated how teacher orientation/onboarding and induction programs can further aid the teacher development process at a cyber charter school. Throughout the

research process, I explored the components of new teacher induction programs at a cyber charter school and investigated how new teachers perceive their induction program. By studying their induction experiences, I examined how teachers perceive the program in supporting them in their transition into online teaching. Further, I identified components that work and what needs to be addressed to improve the induction program's effectiveness at The Cyber Charter School.

Problem Statement

The teaching profession is one where new teachers are expected to hit the ground running, to be immediately efficient and successful in their duties and impact. However, such competency, like what can be found in senior counterparts, takes time to hone and refine. But in many classrooms, time is not on a new teacher's side. Consequently, some teachers feel stressed, even contemplating leaving the field altogether (DeCesare et al., 2016). This isolation is only magnified when a new teacher starts their career at a cyber charter school (Borup & Stevens, 2017).

Archambault et al. (2016) discovered that only 3.5% of preservice programs integrated virtual field opportunities to prepare new teachers for online instruction. Predictably, failing to provide teachers with proper training leads to their feeling underprepared about teaching online (Zweig & Stafford, 2016). Due to their lack of exposure to online teaching and learning through preservice teaching programs, cyber charter schools are responsible for training new teachers. Preparing educators to facilitate learning in online environments is not a straightforward task. Many cyber charter schools utilize their induction programs to help transition teachers to their new online roles. If the induction program does not effectively prepare them, teachers will not be able to design learning experiences that meet their online learners' needs.

Addressing Gaps in the Research

Although many studies focus on new teacher preparation and support, a limited number of studies examine ways that K-12 cyber charter teachers are prepared and supported (Barbour, 2019). Despite the growth in cyber charter education in Pennsylvania, new teachers at cyber charter schools exhibit significant gaps in their knowledge of online learning and instruction. Cyber charter students' success directly correlates with teachers' preparedness to teach online (Borup et al., 2019). Importantly, schools can address these gaps by adjusting their onboarding, induction, and professional development programs.

To prepare new teachers for online instruction, cyber charter schools work to provide support and design professional development opportunities, such as induction programs, that focus on digital pedagogies (Ferdig et al., 2020). Cyber charter schools have created online orientations, induction programs, and online professional learning communities (Linton, 2018). This research study focuses on understanding what cyber charter schools must do to prepare teachers for online instruction. To this end, this study identifies new teacher perceptions of their induction program at a cyber charter school. Specifically, I examined a medium-sized cyber charter school's induction program and how new teachers perceived their preparation to teach online at a cyber charter school. Further, I investigated and compared the elements of induction, effective or ineffective, that support cyber charter teachers' development.

Research Questions

This study addresses the following research questions:

1. How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment?

2. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment?
3. What are the perceptions new cyber charter school teachers concerning the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?

It is important to separate online lesson design from lesson delivery. In 2018, Rice researched online course design and discovered the importance of separating instructional design from instructional delivery. The two online instruction practices require different skill sets (Rice, 2018). When investigating a new teacher's perceptions of developing online lessons, I looked specifically at how confident participants felt in planning and designing lesson packages in a learning management system, Canvas. The lesson packages are asynchronous learning opportunities that include explicit, direct, and inquiry-based instruction. Cyber charter teachers must design digital activating strategies, formative/summative assessments, and summarizing activities. Additionally, they must integrate diverse media and incorporate subject-specific and developmentally appropriate digital learning resources into online learning modules.

When looking at the delivery of lessons, the focus was on how new teachers felt induction prepared them in leveraging the appropriate technologies to assure student success in synchronous virtual lessons conducted through the video conferencing tool, Zoom. Respondents evaluated how they were prepared to utilize Zoom features, such as breakout rooms, to engage their online learners.

Rationale for Methods

According to Teddlie and Tashakkori (2009), an advantage to mixed methods research is that it can overcome the disadvantages that are inherent when adopting a single method approach to research. For this research study, I utilized an explanatory sequential mixed methods design (Creswell & Plano Clark, 2018), that involved collecting quantitative data first. In the study's quantitative data collection phase, I gathered questionnaire results from new K-12 cyber charter school teachers at a specific school in Pennsylvania. In the second qualitative phase, I explored new teacher experiences and perceptions of their induction program through a focus group interview and journal entries.

The components in the integrative explanatory sequential mixed methods approach, such as triangulation, allowed me to explain my quantitative survey results with qualitative interviews and journal entries. Creswell and Creswell (2018) highlight the benefit of connecting quantitative survey results with qualitative data because qualitative data can further explain the survey results (p. 299). Another advantage to this type of research is the information gained through the value of mixed methods research. According to Creswell, qualitative questions allow participants to explain quantitative data. While the qualitative aspect might reveal conflicting information (p. 291), it can offer better insight and indicate whether researchers need to develop a better quantitative instrument. Qualitative and quantitative research validate each other by confirming or proving each other via triangulation, elaborating or augmenting findings to provide more information, and initiating or originating new lines of exploring, re-examining concepts to obtain new insights (Creswell & Plano Clark, 2018). Therefore, this research study's mixed-methods design involved examining qualitative findings from interviews and journal entries as well as

analyzing results with quantitative findings from an analysis of questionnaire data during the investigative process.

Significance of Study

Based on the research literature, there is an apparent need for standardizing and creating uniformity in how teachers are prepared to teach in online settings. Additionally, there is a need for creating preparatory programs that introduce digital pedagogy within teacher education programs. In my exploration of the research literature, I discovered examples of organizations advocating standards for online teaching. The most well-known standards were created by the International Association for K-12 Online Learning (iNACOL) (Barbour & Adelstein, 2013). The iNACOL National Standards for Quality Online Courses are a widely utilized design instrument currently implemented across the United States (Barbour, 2013). Although many institutions have accepted and implemented the iNACOL National Standards for Quality Online Courses, research has not been conducted to validate the standards or measure their effectiveness (Barbour, 2019). The standards do not include online practices for teaching diverse populations, such as students with disabilities or English learners. Addressing those gaps, Quality Matters and the Virtual Learning Leadership Alliance worked to update the iNACOL standards for online teaching and courses in 2018 and 2019. The new standards contain specific language about diverse learners, and they address digital literacy and text complexity. Despite the standards being publicly available, few teacher educator programs use them (Rice, 2020).

In addition, a missing component of the pre-existing knowledge base is the cyber charter teacher's viewpoint of the quality of their preparation to become an online teacher, specifically through the schools' induction program. It is critical to train new online educators, which is a critical factor in teacher retention. Student success rates are also correlated to new online teacher

development (Kennedy & Archambault, 2012). In this study, I investigated perceptions of new teachers of their induction program in preparing them for online instruction at one particular cyber charter school. The information gathered could also contribute to the training of new online teachers. The results from this study could guide the re-evaluation induction programs and preservice teaching programs.

Researcher Positionality

Over the past ten years, I have witnessed online education's potential in numerous roles such as a teacher, an administrator, and as a Master's and doctoral student. My experiences and my students' experiences are my fuel to push forward with cyber charter teacher preparation as my research focus. As the Supervisor of Educational Technology, I struggle with understanding the dynamics of our online environment and my growing discomfort with our process to grow teachers into lifelong learners and high-performing online instructors. My connection to cyber charter teacher induction is rooted in my personal journey and my experiences as a new cyber charter teacher eleven years ago. As Educational Technology Supervisor, it corresponds to my evaluation of my work and the impact of the induction program as a whole. My position as a supervisor at this research site impacts my role as a researcher. The twenty teachers participating in the study are cyber charter educators at the school I currently work. Clearly not an outsider, it is critical to acknowledge my close relationship to the overall topic and this specific program to limit social desirability bias from participants and empathy bias from me as a researcher (DeVellis, 2003).

From my initial recruitment email to the interview process, my communications with research participants played some role in their perceptions of me and the research, and ultimately the information they shared with me. Although I do not evaluate this study's participants, there is

a power dynamic that I was mindful of, especially during the interview process. Throughout the study, I utilized several measures to enhance the validity of the findings and acknowledge my connections to the cyber charter teachers and the induction program. Due to my position, I used reflexivity to reflect on my researcher lens and take responsibility for how I situate myself within the research and its impact on my participants, questions asked, data collected, and data interpretations. Before beginning the interviewing process, I engaged in researcher reflexivity to reflect and explain my experiences (Merriam, 2009). Throughout the research process, I wrote down personal reflections and thoughts regarding new online teacher preparation through a cyber charter induction program. I spent time reflecting on my expectations and experiences during this research process.

Definition of Terms

Below is a list of terms from the research literature included in this study. Many of the terms have dual meanings and are often used interchangeably. It is important to note that not all K-12 online schools are similar. The definitions included below are relevant to the context of this specific research study.

Asynchronous. Asynchronous online learning occurs virtually for students and at their own pace and time. Students correspond with their teachers electronically typically through email, instant messaging, and/or text. Asynchronous coursework usually involves students reading through course materials, participating in a discussion, submitting assignments, and completing assessments (Costley, 2016).

Brick-and-mortar. Brick-and-mortar districts and schools, a term related to the materials used to structurally build schools and to describe a traditional classroom. At a brick-and-mortar

school, the learning occurs in the physical classroom with face-to-face interactions between teachers and students (Goralski & Falk, 2017).

Cyber Charter Schools (also referred to as Virtual Charter Schools). Public online schools functioning as independent districts. Cyber Charter Schools deliver a fully remote educational program to students in a computer-based format (Pennsylvania Department of Education, Cyber Charter Schools, 2004).

Distance Education. It is the “practical subset of education that deals with instruction in which distance and time are the critical attributes; that is, student and teacher (and other students) are separated by distance and/or time” (Yacci, 2000).

Emergency remote teaching (ERT). ERT is a short-term instructional shift to an alternate modality due to crisis conditions. ERT requires teachers to utilize online instruction for their classes that would typically be conducted face-to-face or in a blended format (Hodges et al., 2020).

Induction. “Comprehensive systems of support and training for beginning teachers” (Johnson et al., 2010, p. 1).

Learning Management System (LMS). Learning Management Systems are software programs that are based on cloud computing technologies. A learning management System houses courses and learning materials. It is a medium to communicate course contents to learners. An educator leverages an LMS to foster collaboration and engagement to create dynamic learning opportunities (Oliveira et al., 2016.)

Online Schools. A school that delivers courses to students virtually, most commonly through the Internet. This vague and ever-evolving term is used interchangeably to identify a variety of online schooling formats such as virtual school, e-learning, distance education, cyber

education. In research, it sometimes identifies supplement online credit recovery programs, but it is also used to identify full-time cyber charter schools (Barbour, 2019).

Synchronous. "Learning that occurs with all students in a class receiving instruction and completing work at the same time. Students do not necessarily have to be in the same location for synchronous work" (Woodworth et al., 2015, p.viii).

Summary

In this introductory chapter, I shared my experience and involvement in cyber charter education, which led to my interest in researching the preparation and induction of new cyber charter teachers. I also detailed this study's significance and included supporting evidence for my claims. I described the purpose of conducting this study and outlined the research questions that guided me as well. Chapter I set the foundation for the literature review in Chapter II, which will focus on Cyber Charter Education, online teaching skills, and technological advancements. Chapter III outlines the research methodology, including design, participants, instruments, and procedures. In Chapter IV, I describe my analysis of the collected data. Lastly, in Chapter V, I present a summary of my findings, including discussion and implications of the results and recommendations for using the findings for the advancement of cyber charter induction programs.

Chapter 2: Literature Review

During its inception in the 1990s, online education was not widely accepted as a viable means of education because of the lack of instructor buy-in and understanding of digital pedagogies (Ketnor, 2015). Over the past ten years, K-12 online and blended learning initiatives have developed exponentially (Gemin & Pape, 2017). In 2010, over 450,000 K-12 cyber charter students and over 2 million K-12 students participated in online courses. Currently, the K-12 and Higher education fields no longer consider online education to be just a trend, but rather both consistently use it. In fact, increasingly more students enroll in cyber charter schools each year, further evidencing online education's prevalence (Digital Learning Collaborative, 2019). All 50 states and the District of Columbia deliver some form of online instruction (Barbour, 2019). Looking at Pennsylvania specifically, according to education officials, the state's fourteen cyber charter schools reported 62,000 student enrollments as of October 1, 2020, up from their 38,000 in 2019 (Hanna & Graham, 2020).

As researchers have studied online education, their work typically focuses on the K-12 online field's expeditious growth. However, the education field as a whole still has little knowledge and understanding of this new learning paradigm or its key players: schools, teachers, parents, and students (Barbour, 2019). Even less research explicitly focuses on online learning achievement or factors of success in the K-12 online environment (Francescucci & Rohai, 2019). Through seven sections, this chapter examines the current understanding of preservice teacher training in preparation for online instruction and induction programs and professional development at cyber charter schools. The first section of this chapter provides a historical overview of online education and the current K-12 online models, and the second section presents the evolution of cyber-charter schools which includes subsections that provide

information on online strategies, practices, and concerns. The third and fourth sections explore the theoretical frameworks and detail the components of The Cyber Charter School's induction program that undergird this study respectively. The fifth through seventh sections comprise the literature review for this study. The literature review provides the basis for understanding how preservice teaching, induction, and professional development programs can impact new cyber charter school teachers' experience and perceptions.

Historical Background on the Development of Online Schools

Distance Education began in the 18th century in the form of correspondence education. Teachers would provide students with lessons and exercise through the mail. Online instruction stems from that main branch of distance education. Initially, schools used K-12 distance education to provide more access to alternative learning opportunities and agency for educational choices, but this modality began solely in private schools (Kentor, 2015).

One of the first online schools to open in the United States was the private school, Laurel Springs School in Ojai, California, in 1991, followed by the Utah Electronic High School (UEHS), which in 1994 created a blended supplementary online and correspondence program for high school students (Barbour, 2013). Where UEHS used a blended format, having students mail in some of their work, in 1997, two schools made the full switch to online, making Virtual High School Global Consortium (VHS) and Florida Virtual School (FLVS) the first public supplemental online schools (Barbour, 2013). These two schools provided all of their curricula to students through online procedures. At VHS most courses were electives and designed by the teacher instructing the course. At FLVS, highly qualified Florida subject matter experts designed the courses based on Gagne's Nine Events of Instruction (Cavanaugh & Blomeyer, 2007). Both

schools provided a full online curriculum course, but the schools still listed FLVS and VGS learners as enrolled within the district.

Although many of the early online programs and schools centered on high school credit recovery, with the advent of the Charter School Movement, educators started to consider how they could leverage the Internet to provide new ways to educate school-age children (Clark, 2001). Simultaneously as online schools began to open, federal and state-level policies and legislation were increasing the number of charter schools in the United States (Berends, 2015). The increase in the number of brick-and-mortar charter schools combined with the birth of the Internet converged to create a new form of public school, the cyber charter school (CCS), which provides new possibilities for the delivery of education (Ahn, 2011). The creation and adoption of the cyber charter school illustrate the continuous evolution and advancement of the distance education field (Borup et al., 2015).

Today, there are four key types of public, online schools organized and structured in various ways (Erlebacher, 2006). First, state online schools are usually run at the state level and supply supplemental courses to students who live only in that state. Another type of public, online school is one that a school district manages. They are used to deliver supplemental or full-time programs to learners within their district. Third, several districts may partner to offer their online programs across district areas. Lastly is the cyber charter school. As charter schools, Cyber Charter Schools are approved by a sponsor and must adhere to their state's applicable charter law. Cyber charter students access their state-certified teachers and lessons online from a home-based setting and teachers leverage technology to deliver their instructional materials (Borup et al., 2015). Table 2.1 below displays the different types of public online schools.

Table 2.1*Typology of Public Online Schools*

System-Level Program	Supplemental or Full-Time Enrollment	Boundaries	Governance
State Online Schools	Supplemental	Entire state	Typically authorized and by state agencies
School District Online Schools	Supplemental	Students in a single district	Operated by school districts, not always monitored by the state
School District Online Schools	Full Time	Students in a single district	Operated by school districts, not always monitored by the state
Multi-District Virtual Schools	Full Time	Students within partnering districts	Operated or chartered within single districts
Cyber Charter Schools	Supplemental or Full Time	Varies in each state	Autonomous school; must comply with state charter laws

Note. Adapted from Erlebacher, 2006

Pennsylvania Cyber Charter Schools

Many Pennsylvania cyber charter schools are state-funded (Mann & Baker, 2019). Cyber charter schools abide by charter school laws within their specific state (Hasler Waters & Leong, 2014). Charter school policy started with Act 22 of 1997 (Pennsylvania Department of Education, 2020). Act 88 describes cyber charter schools as "independent schools established and operated under Department of Education charters... which utilize technology to provide a significant portion of [their] curriculum and instruction via the Internet or other electronic means (Pennsylvania Department of Education, 2021)." According to Section 1725-A of the Pennsylvania Public School Code, when a student elects to enroll in a cyber charter school, the district of residence pays the student's charter school tuition. The amount is based entirely upon

the school district's costs. Cyber charter schools receive different amounts of money because they enroll students from multiple districts (Pennsylvania Department of Education, 2021). In Pennsylvania, families can elect to have their children attend cyber charter schools (Mann & Baker, 2019).

Format of Cyber Charter Schools

To better understand the context of this research study and the roles and responsibilities of a new cyber charter teacher, it is essential to review the format of cyber charter schools. In this section, I detail the varied models of cyber charter schools and instructional practices which are divided into five subsections: the constructivist approach to learning, classroom management practices, pacing, engagement strategies, and Universal Design for Learning principles.

One significant difference between brick-and-mortar and virtual classrooms, cyber students and teachers may never physically meet face-to-face. Schools are designated as virtual when teachers design most of the classroom learning experiences online (Barbour, 2015). Cyber charter schools are among the fastest-growing modalities of online learning (Gemin & Pape, 2017). With the help of technology such as learning management systems (Canvas, Blackboard, D2l, Google Classroom, etc.), video conferencing (Zoom, Google Meet, Blackboard Collaborate, etc.), and collaboration tools, cyber charter school teachers create robust learning experiences online (Gemin & Pape, 2017).

Advocates for cyber charter schools highlight the opportunity virtual teachers have to create personalized learning paths for their learners. They also share how the environment helps eliminate some social pressures and other factors for students who may suffer from emotional, physical, and other limitations for a brick-and-mortar environment (Curtis & Werth, 2015). Curtis and Werth state that online courses allow students to spend more time on assignments,

alleviating some brick-and-mortar environment stressors. In addition, efficient online students learn prioritization skills, time management skills, and successful communication techniques (Lieberman, 2019).

The Cyber Charter Online Setting

In an online learning environment, students typically have control over their learning pace (Huh & Reigeluth, 2018). The technology, curriculum, students, educators, and families each play a distinctive role as they work together in ways that are unlike the brick-and-mortar model. At cyber charter schools, teachers use technology to design and deliver instruction and lessons synchronously and asynchronously and to communicate with their learners. The online synchronous class time is very similar to the brick-and-mortar environment. The cyber charter teacher promotes learning, creating genuine connections to the real world, connecting educational topics with future endeavors (Wilson, 2017). For example, they may use video conferencing tools, such as Zoom, to instruct a class or to engage in collaborative exercises and projects (Barbour, 2019). Teachers in the online learning environment leverage built-in technological tools like learning management systems that include discussion forums, multiple assignment upload options, media submissions, and interactive assessments that promote collaboration, creativity, and critical thinking (Wilson, 2017). The daily use of technology also helps engage students and pique their interest in the lesson (Boboc, 2015).

Varied Cyber Charter Models

There is wide variation in the curricular materials and instructional approaches used across cyber charter schools. For example, not all cyber charter schools follow the same model. Some leverage vendor curriculum. Masten (2016) labeled the vendor curricula as a scripted or canned curriculum. Districts or schools that purchase the canned curriculum have little to no

input into the creation of the curriculum. Furthermore, teachers of a canned curriculum do not create the content that they teach students. Companies deliver the content to the school or teacher, and the teacher provides the content through an LMS (Masten, 2016). Other cyber charter teachers act as instructional designers and build their own curriculum maps and self-created lessons (Taylor & McNair, 2018). Some cyber charter schools also utilize a blended model. In the blended model, students complete their lessons virtually and must also attend sessions in a resource center throughout the week. Other cyber charter schools may enroll students statewide for an entirely virtual student experience. In addition to comparing different cyber charter models, it is critical to understand the differences in classroom management practices and engagement strategies between cyber charter and brick-and-mortar schools.

Constructivist Approach to Learning

As schools gain a better understanding of effective pedagogical approaches in cyber charter education, a question remains: how can programs better prepare teachers for this area of service (Hathaway & Norton, 2012; Kennedy & Archambault, 2012)? Many new teachers start their careers online, and they begin without the necessary skills to be successful in the cyber charter environment (Kennedy & Archambault, 2012).

It has become a requirement for cyber charter schools to effectively integrate their content with technology and the concept of social constructivism (Simsekli, 2014). Information construction occurs in the brick-and-mortar environment, but it can also occur when learners are actively engaged in cyber charter environments. By using Learning Management Systems, teachers can design experiences that promote peer interaction and learning, create personalized instruction and learning paths, and provide timely and effective feedback (Reis et al., 2015).

A critical function of learning is the interaction between students. Online learning requires cyber charter teachers to adjust and adapt their courses and lessons, but it also calls for students to adjust so that successful interactions can occur. According to constructivist theory, the knowledge construction process takes place more efficiently in a social context, where ideas can be shared and challenged (Bates, 2015). Cyber charter teachers must establish an active learning community to overcome some of the drawbacks linked to online education, such as students' feelings of isolation and their lack of motivation and interaction (Gallardo-Alba et al., 2020).

Classroom Management Practices

Although preservice programs include curriculum and course work on classroom management techniques, the focus is on the face-to-face setting. Both brick-and-mortar educators and cyber charter educators utilize positive classroom management and specific strategies to promote a positive, safe classroom environment (Capella et al., 2015). To prepare new cyber teachers for instruction, cyber charter induction programs integrate frameworks that include digital strategies for classroom management. For example, Cicco created the PICCA model in 2018 to establish a framework for developing a positive online environment. PICCA represents five critical guidelines for cyber charter teachers to follow. Presence (P) pertains to a teacher being an active member in class discussions and activities. For interaction (I), a teacher needs to encourage students to engage in meaningful exchanges regarding course learning targets. Teachers must focus on clarity (C) when communicating with students regarding course expectations, assignments, and feedback. Consistency (C) of each of the above components is essential to the PICCA model's success. Availability (A) refers to the requirement for cyber

charter teachers to respond to questions in a timely manner. Each component of the PICCA model maximizes a positive culture and climate in online courses (Cicco, 2018).

A cyber charter teacher can use several pathways for establishing a positive culture and climate in their classroom. It starts with course design and structure that ideally illustrates professionalism, clarity, and a safe environment for students to generate respectful classroom discussions and learning opportunities (Cicco, 2018). The teacher's language, delivery of content, assignments, feedback, and communication techniques create a sense of their preparedness, content knowledge, and availability. These are critical skills new teachers need to hone during the induction process at cyber charter schools.

Engagement Strategies

In addition to online classroom management techniques, cyber charter teachers need to utilize online engagement strategies. It is the cyber charter school's responsibility to prepare teachers during induction on how to select the right technology to engage learners. A cyber charter teachers' technology skills directly impact course curriculum delivery and student engagement (Lai & Hong, 2015; Tatli et al., 2019). The instructional materials used and developed by teachers should generate engaging lessons (Basarmak & Mahiroglu, 2015), provide opportunities for students to develop a deep understanding of concepts (Tatar et al., 2013), and facilitate not replace the teaching process (Coklar & Tercan, 2014).

The tools and approaches used to educate students significantly influence the students' academic performance (Kablan et al., 2013). Researchers have highlighted how collaborative and cooperative learning strategies can engage learners (Gillies, 2016). Successful strategies involve students communicating, sharing ideas, collaborating to achieve a learning target, or strategically socializing in ways that enhance learning (Dirksen, 2012). Interestingly, researchers have also

shared the effectiveness of these strategies, such as the jigsaw grouping method and problem-based learning, which translates explicitly well to virtual settings (Robertson & Riggs, 2018).

Cyber charter teachers use digital pedagogies to create a classroom of engagement, such as using webcams, chat, microphones, and breakout rooms to effectuate interaction and engagement. Online teachers also leverage polling functionality and other online formative assessment tools to check for understanding and increase participation and interactivity in the online classroom (Barbour, 2019). Recently, online learning researchers have found no apparent difference in terms of student engagement between online and brick-and-mortar classrooms (Piro & Anderson, 2018). When teachers design effective lessons, the online environment can match the level of student engagement within brick-and-mortar schools, specifically when it comes to classroom discussions and collaborative opportunities (Piro & Anderson, 2018).

Universal Design for Learning (UDL)

Many cyber charter teachers also utilize the Universal Design for Learning framework to design resources and learning modules to ensure their resources are accessible to all learners (Carnahan, 2015). In implementing the UDL, teachers can ensure that all learners have equal access to instructional materials and content (Rose & Gravel, 2010). UDL includes closed captioning on digital media materials, color contrast and appropriate font size, audio transcripts and descriptions for videos, and continuous accessibility testing throughout the content development and design process (W3C, 2014). UDL-based instruction expands beyond accessibility for students. When designing online learning opportunities for students, teachers should integrate the four essential components of UDL instruction: articulating clear learning targets; developing inclusive and intentional lessons for variability; utilizing flexible methods and materials; and timely progress monitoring (Basham & Marino, 2013). Benton-Borghi (2013)

recommended that online teachers merge UDL principles with Mishra and Koehler's (2006) technological pedagogical content knowledge framework (TPACK) to meet all their online learners' needs. This combination of frameworks best prepares teachers with the knowledge and skills necessary to reach diverse learners.

Pacing

Flexibility is another significant component commonly associated with the cyber charter setting (Edwards & Rule, 2013). The majority of research on cyber charter schools emphasizes the benefits of flexibility (Toppin & Toppin, 2015). Flexibility in a cyber charter school encompasses various functions such as pacing, daily scheduling, enrollment dates, and placement within online curricula (Crouse et al., 2016). This flexibility in pacing, scheduling, enrollment, and placement provides students and families with an agency in their learning (Toppin & Toppin, 2015).

However, flexibility is not always a positive function for all learners. Heissel (2016) found that sixth and seventh-grade students did not self-pace well compared to eighth-graders. Younger learners must receive more support from their teachers and home facilitator, which the researcher also found to be an essential element for student success. Supporting the findings of Heissel (2016), Kopcha and Sullivan (2008) discovered students who were less proficient in math tended to earn lower test scores when they were allowed to select their own pace. These students often skipped over critical instruction and examples.

Online Education Concerns

In the proliferation of online education systems and schools, the programs have received criticisms and reviews. Web-based learning issues include difficulties in checking student work validity, classroom monitoring, capacity to instruct and interact on the online platform

effectively, and student participation (Sorensen, 2015). Other significant concerns regarding online schools that researchers highlighted are class size, socialization, and rigor (Sorensen, 2015).

Class size plays a vital role in the experience of online students and teachers (Sorensen, 2015). The quality of online instruction decreases as class sizes increase (Afify, 2019). Chubb and the Fordham Institute (2012) found that there is no more significant impact on student achievement than effective teaching. However, when class sizes swell beyond manageable numbers, instruction suffers. According to established categories, large classes are greater than 34 students, medium are 15 to 34 students, and small classes have less than 15 (Benton et al., 2015). Taft et al. (2011) suggested that it is difficult for teachers to attain and maintain high student achievement with high student enrollment numbers. Another concern with online learning is the lack of socialization for students. Protopsaltis and Baum (2019) argue that learning is an “active, dynamic process and that social isolation is a risk factor associated with online education” (p. 18). Cyber charter teachers must be prepared to promote peer-to-peer interactions during learning activities and their delivery of asynchronous instruction. Students are more motivated to learn when they feel connected to their classmates and teachers (Protopsaltis & Baum, 2019).

Additionally, researchers have shared concerns with online education that center on student academic success. Sandoval-Lucero et al. (2014) conducted a study to explore factors that impact online student success. Their study highlighted the need for parental or facilitator involvement, student-teacher relationships, and school support for online students to succeed. Similarly, de la Varre et al. (2014) interviewed unsuccessful online students and their teachers, and they investigated why students failed their online courses. Based on the results, the

researchers found that while students faced challenges in understanding the content, more frequently, issues surrounding learning online and the lack of motivation were identified as key factors. By studying what makes for effective and consistent engagement, we can learn more of what variables make an impact, if not improve, academic success. For teachers participating in induction programs, this is particularly important because they face unique challenges when engaging students who are not sharing the same physical space as them (de la Varre et al., 2014).

Theoretical Framework

Over the past twenty years, researchers have raised concerns about teacher training and professional development to address these issues. They discussed the need to prepare teachers for the digital era, especially the need to broaden an educator's understanding of their content area while staying current with developments in online learning environments and educational technology tools (Archambault & Crippen, 2009). Learning theories grounded in educational technology and adult learning support my research into cyber charter induction programs in preparing new teachers for effective online instruction and technology integration. I utilized two complementary frameworks as theoretical lenses to support my investigation: TPACK and Adult Learning Theory or Andragogy.

Technological Pedagogical Content Knowledge (TPACK)

As mentioned previously, online instruction differentiates itself from in-person instruction in that the students and teachers are geographically separate and communicate through a digital medium. Cyber charter teachers must have sufficient knowledge in not just the content they teach, but also the technology they use and online pedagogical strategies. In addition, teachers need to understand how these elements interact with each other to design asynchronous lessons and deliver synchronous instruction.

Punya Mishra and Matthew J. Koehler's (2009) designed the Technological Pedagogical Content Knowledge (TPACK) framework as a blueprint for integrating technology in K–12 education field. TPACK focuses on understanding the intricacy of the dynamic among learners, teachers, content, technologies, strategies, and tools (Mishra & Koehler, 2009). At the heart of the TPACK framework is the multilayer relationship of three primary forms of knowledge: Content (CK), Pedagogy (PK), and Technology (TK).

Pedagogical knowledge. Pedagogical knowledge encompasses an educator's deep understanding of instruction and learning strategies, which include educational purposes, values, and aims. Pedagogical knowledge applies to understanding how students learn, general classroom management practices, lesson development, and student assessments (Koehler & Mishra, 2013). In general, teachers may learn some of these pedagogical skills before their first teaching job. Most of what they learn is through experience and ongoing professional development through induction (Carter, 2015). This is especially true for cyber charter schools since most cyber charter teachers have little or no training in online teaching and digital pedagogies before being hired.

Content Knowledge. Content Knowledge covers the specific subject knowledge to be learned or taught, which incorporates the concepts, theories, ideas, organizational frameworks, knowledge of evidence and proof, and established strategies toward developing such expertise (Koehler & Mishra, 2009). New cyber teachers typically know the content of the subject they will teach before being employed. Still, the difficulty lies in understanding how to deliver the information in the appropriate format to their students.

Technological Knowledge. Technological Knowledge refers to understanding specific technologies and when they are best suited for addressing learning outcomes (Koehler & Mishra,

2009). Some of this knowledge is specific to certain cyber charter schools because they develop their own technologies, such as custom-built Student Information Systems or specific Learning Management Systems, so the only way to be exposed to the technology is through the school.

Intersections of Knowledge Types. The pedagogical knowledge and technological knowledge that educators need to be effective are different in a cyber course than in an in-person classroom. Therefore, the intersection of these knowledge types with each other and with content knowledge are also different. For example, while brick-and-mortar teachers instruct their students through activities like dissecting a frog, cyber charter school teachers need to accomplish the task virtually through a website or an app. Becoming familiar with how to navigate these technological tools is important for teaching online. Students may not always be able to physically engage in the learning, but they will need to engage in it mentally to acquire new knowledge (Clark & Mayer, 2016). Niess (2005) also detailed four components that offer a framework for the implementation of TPACK in online teacher training:

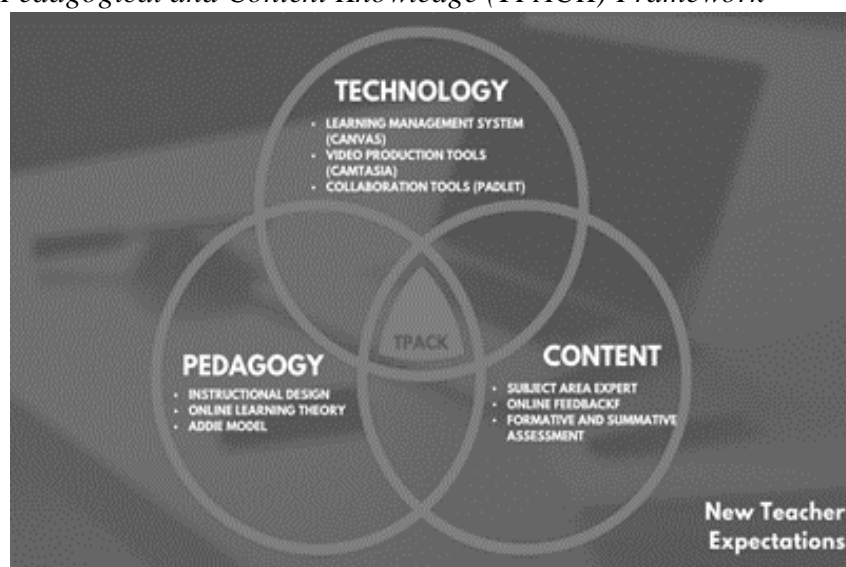
- an overarching understanding of teaching a specific content area utilizing technology to facilitate online student learning
- knowledge of digital pedagogies for teaching a particular topic online through the use of technology
- knowledge of learner's misconceptions, understandings, thinking, and learning in a specific content area and how these might be applied using technology
- knowledge of curriculum materials that leverage technology to enhance learning in a given subject area.

TPACK is a relevant theoretical lens because integrating technology, pedagogy, and content is essential to training educators for the cyber charter environment. In evaluating teacher

preparation for online instruction, TPACK includes each of the three key components needed to ensure high-quality online instruction: technological knowledge (Learning Management Systems, video conferencing tools, and educational technology programs), content knowledge (curriculum/ subject matter expert), and pedagogical knowledge (digital pedagogies, instructional strategies, and instructional design principles). Cyber charter schools expect new teachers to be proficient in numerous educational technology tools, instructional design strategies, and content areas. This lens offers a way for cyber charter schools to review their induction programs to evaluate the components that are currently integrated and how they would need to be altered to specifically prepare their new cyber charter teachers. The TPACK framework and its alignment to new cyber charter teacher expectations are detailed in Figure 2.1.

Figure 2. 1

Technological Pedagogical and Content Knowledge (TPACK) Framework



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Additionally, Archambault and Crippen (2009) also shared that the TPACK framework is particularly relevant in the context of online learning. According to the researchers, the focus becomes more centered around how the online course is designed, with special emphasis on the

online teaching materials. Harris et al. (2009, p. 393) argue that many current technology implementation practices are “techno-centric”, often omitting sufficient consideration of the dynamic and intricate relationships between content, pedagogy, and technology. TPACK is a valuable framework to outline the kind of knowledge cyber charter teachers need to attain during induction to effectively teach online (Mishra & Koehler, 2006).

An advantage for cyber charter induction programs using the TPACK framework would be to emphasize the technological components that influence the extent to which teachers can leverage technology to facilitate online learning (Koehler et al., 2013). During the research process, I engaged with new teachers at The Cyber Charter School to gather authentic and valid perspectives on their new teacher induction in preparing them for online instruction.

Adult Learning Theory

The other framework for this study centers on the idea that induction programs can positively impact new teachers' instruction and perceptions. When designing an induction program, schools should consider the teacher as an adult learner (Knowles et al., 2005). By doing so, the program can aid in the transition of a preservice teacher to a cyber-teacher.

Andragogy

An example of adult learning theory and learning principles is andragogy. According to Knowles (1989), "Andragogy is the art and science of helping adults learn" (p. 38). Andragogy's key component is the learner (Knowles et al., 2005). Knowles' theory centers on a few basic beliefs about adult learners, including adults, learn independently, life experiences impact learning, adults need an immediate application of the knowledge, and adults are inspired to learn from more internal than external factors.

Based on these beliefs, Knowles (1989) created four principles that could be leveraged when designing induction programs and professional development experiences for adults:

- Adults should play an integral role in developing and planning their learning.
- Their experience should provide the foundation for the learning activity.
- Professional development must be relevant and have a direct impact on teaching.
- Learning should be problem-centered and act as the why of the learning experience.

These principles follow Knowles's (1989) prediction about adult learning in the 21st century needing to be in a digital format. Knowles et al., 2015 included a new chapter on "Information Technology and Learning." The researcher highlights how technology affects the learner in control, promotes a facilitator-friendly environment, and provides 24/7 access.

The theory of Andragogy emphasizes the learning process for the new teacher. A quality induction program considers an educator's active role in their own learning because their practices can differ depending on what motivates them to grow and learn. In alignment with the principles of adult learning, the goal of the induction program is to put the learner at the center of the process to improve teaching practice.

As related to this study, TPACK and Andragogy were utilized to generate questions for both the questionnaires, the focus group interview, and journal entries to help new teachers reflect on their induction experience. These theories develop a theoretical understanding of beginning teachers' perceptions of their induction program's strengths and weaknesses and provide the lens for my research study. TPACK and Andragogy frameworks helped generate coding themes to categorize participant responses and their correlation to induction and their preparedness to design and deliver online instruction. New teachers provided reflections on the

induction program and how it developed their technological, content, and pedagogical knowledge.

The Cyber Charter School Induction Program

The Cyber Charter School uses its induction to develop new teachers' TPACK. The goal of the induction program at The Cyber Charter School is to help inductees demonstrate growth throughout the program to become effective online educators and gain knowledge in technology, pedagogy, and their content area (TPACK). An induction program's effectiveness is based on stronger teacher performance and lower staff attrition rates, increased student engagement, academic growth, achievement, decreased chronic absenteeism, student withdrawal, and students opting to drop out (Smith & Ingersoll, 2004). Table 3.2 displays the Induction program goals and topics at The Cyber Charter School.

Table 2.2

Induction Goals

Admin. Goals	Developing and Designing Lessons Goals	Design and Delivery of Lesson Goals
Demonstrate professionalism and fulfill all educator responsibilities	Understand/make effective use of Pennsylvania Common Core standards and anchors (Content Knowledge)	Implement strong teaching strategies and methodologies (Pedagogy Knowledge)
	Obtain/expand content and pedagogical knowledge to teach the curriculum (Pedagogy Knowledge)	Learn to use effective educational technologies (Technology Knowledge)
	Design relevant, real-world, standards-aligned curriculum maps and unit/lesson plans Learn to provide effective feedback to support each learner (Technology Knowledge)	Engage all students in the learning process to yield strong student results (Pedagogy Knowledge)
	Assess student learning using formative/summative assessments (Content Knowledge)	Support the social-emotional well-being of students (Pedagogy Knowledge)

The Cyber Charter School constructed this particular induction program to provide support for educators to ensure a successful onboarding experience during the first two years of employment development of their TPACK. Utilizing principles of Andragogy, the Cyber Charter School developed a guided learning environment and the opportunity to build skills and ensure success as online educators.

One of the key components of andragogy is that adults learn more effectively when the session's purpose and objective can immediately apply the information (Houde, 2006). One way for new teachers to practice applying the information they are learning is through sandbox courses. A sandbox course is a practice course that has all features enabled but students will never access it. The use of a sandbox course creates a low-stakes environment for new teachers. Using the sandbox course, new teachers can immediately apply and test out what they learned in the LMS. Andragogy utilizes problem-based and collaborative learning strategies (Knowles et al., 2015). A new teacher's experiences provide a basis for learning. New teacher cohorts connect to articulate experiences, information, and techniques to improve student learning. The induction program at the CCS consists of

- New Teacher Academy (Five Days of New Teacher Professional Development)
- An online induction course (first year)
- Mentoring
- Professional growth modules (second year)

New teachers also have ongoing educational technology training, coaching, and mentoring throughout the induction program. The school's academic administration worked to integrate and align the program through a thematic framework focused on inductee competencies (Appendix G). Table 2.3 documents the Induction program topic, category, and method of delivery. The

school selected topics that they hoped would develop more robust teacher performance and lower staff attrition rates, increase student engagement, academic growth, and achievement, decrease chronic absenteeism, student withdrawal, and students opting to drop out.

Mentoring

The school assigned mentors to help inductees to meet the goals, objectives, and targeted outcomes during both years of induction. Mentors are learning-focused, growth-oriented, developmentally aware, and sensitive to the inductees' needs. Mentors embrace the foundations of mentoring, continue to develop coaching and observational strategies, and apply instructional leadership skills. Mentors meet monthly for ongoing skill development and group support. Mentors meet formally with assigned inductees a minimum of twice a month to work one-on-one or in small groups in the areas of pedagogy, lesson development, instruction, and assessment strategies. Furthermore, setting professional goals, creating action plans, and providing support with thematic induction topics to augment the biweekly conferences are foundational to the mentor-mentee experience. Mentors maintain proper documentation on all inductees and collaborate with the induction program coordinator and the inductees. Mentors must submit documentation every month.

Educational Technology Training

Educational and Informational Technology training is ongoing and coordinated by the Supervisor of Educational Technology and a team of Ed Tech Coaches. The sessions encompass technical training for Computer Basics, GroupWise and phone system functions, Canvas, GSuite, Zoom, NearPod, Kahoot, Quizlet, and additional Web2.0 tools such as Nearpod, Voicethread, and Camtasia. Learning and applying skills to effectively utilize online resources and programs, such as Achieve 3000, ALEKS, Reflex Math, Headsprout, NewsELA, EdInsight, PA-EETEP,

PowerSchool (IEP access), and EBSCOhost. Educational technology training is provided during a five-day New Teacher Academy and throughout the year on an ongoing, as-needed, basis.

Table 2.3

Induction Program Topics

Topic	Category	Method of Instruction
Knowledge of Online Education and Cyber Charter Schools ESSA and the PA Future Ready Index Comprehensive School Level Plan and Performance Goals Introduction to Cyber Charter School Time management and organization of virtual and physical space Calendars, Schedules, Teacher Resources Demographics, Diversity, and Mental Health Needs of VCS Students Student programs, activities, and resources Parent-School Compact Parent and Family Engagement Policy Guidelines for Instructional Staff Teacher Evaluation of Professional Practice and Self-Reflection	School Specific	New teachers are introduced to these topics through an introduction learning module that includes manuals, links, and video resources.
Domains and Components of Charlotte Danielson Framework Power and Purpose of Reflection on Practice Professional Practice for Brain-based Learning in the Digital Age Standards-Aligned System, Standards, Curriculum, Planning Instruction and Assessment Practices of Online Educators	The design of online lessons	Live five-day training and online learning modules in New Teacher Academy. Seminars, mentor sessions, and extended growth modules continue new teacher development in these topics.
Overview Virtual Lessons Virtual Lesson Techniques & Strategies- Total Participation Zoom Features: Screen Sharing, Breakouts, and participant management	The delivery of online lessons	Live five-day training and online learning modules in New Teacher Academy. Seminars, mentor sessions, and growth modules.
Overview of EdTech- Canvas, Zoom, web 2.0 Educational Technologies & Methodologies of Online Educators Accommodations and Adaptations for diverse learners	The design and delivery of online lessons	Topics are introduced to New teachers when they complete a live five-day training and online learning modules in New Teacher Academy, Seminars, mentor sessions, and growth modules

New Teacher Academy

All new instructional staff are required to participate in a five-day training period, typically held in August, to acclimate to The Cyber Charter School (CCS) and learn essential basic skills. The New Teacher Academy involves synchronous group activities and asynchronous learning modules. The supervisor of educational technology, the educational technology coaches, and the instructional coaches act as induction facilitators. They lead the sessions and provide support during activities and group work. New teacher participation in the sessions and course is a required component of the Induction Program.

- Module 1/ Day1 of New Teacher Academy focuses on an overview of the school as a whole, introducing key systems and reviews a "Day in the life of a Cyber Charter Teacher."
- Module 2/Day2 focuses on instructional practices and digital pedagogies. Teachers are introduced to the Lesson Package format and the learning management system's various features. New teachers use their sandbox or camp course to practice each lesson package component.
- Module 3/ Day 3 introduces online assessment strategies such as formative assessment tools for lesson check-ins as well as Summative common assessment practices.
- Module 4/Day 4 introduces the synchronous instruction strategies, including a review of the Virtual Lesson format and the videoconferencing tool Zoom. New teachers can practice their skills through a small group Zoom activity.
- Module 5/ Day 5 introduces new teachers to advanced technology tools such as the learning tool interoperability (LTI) available in the LMS (Canvas). During day five of New Teacher Academy, new teachers are also paired with a veteran staff member to help

review what they learned over the last five days of training and share their courses and ideas for the year.

Virtual Professional Development and Live Seminars

Induction seminars and Virtual PD Lessons are conducted/assigned over the two-year induction program. Seminar topics include Professionalism and e-Learning, Student Engagement and Motivation, Standards-Aligned Systems Model (SAS), Giving Effective Feedback in an Online Environment, Accommodations and Adaptations for Diverse Learners, Differentiation (MtSS), Learning-Focused Instructional Strategies and Assessment Techniques (MI), Brain-based Teaching in the Digital Age, and e-Learning and the Science of Instruction.

The induction program designers considered their participants' needs as adult learners when they put together the learning experiences. Figure 2.2 below details the four stages of the Cyber Charter School's teacher induction program and the alignment with the TPACK framework and principles of andragogy.

Figure 2. 2

Cyber Charter School teacher induction program

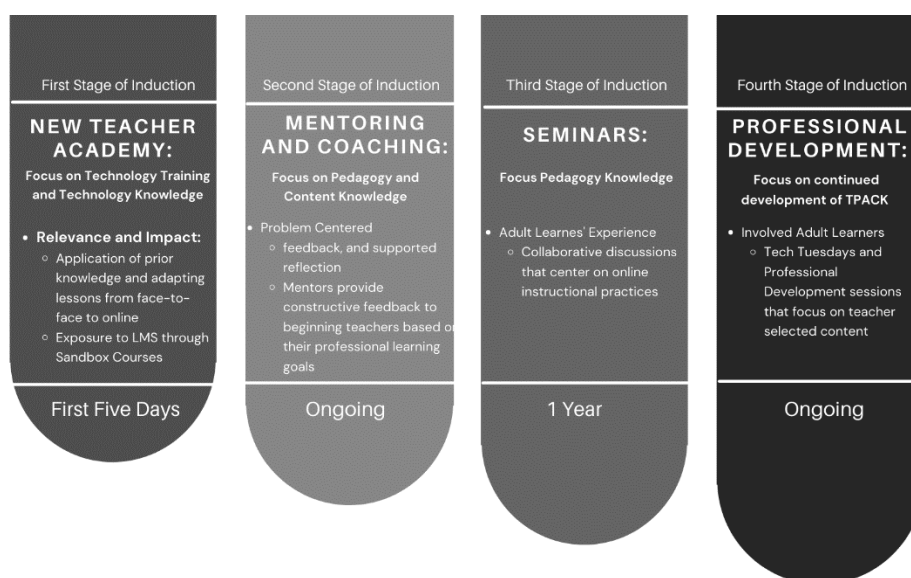


Table 2.4 also highlights the alignment between the pedagogical aspects of the induction program and some of the principles of andragogy and TPACK.

Table 2.4

Alignment of Induction Program Components with TPACK and Andragogical Concepts

Induction Component	TPACK	Andragogical Concept (Knowles, 1984)
New Teacher Academy: New Teachers Enrolled as students In Course and attended lives sessions with collaborative group work opportunities	Technology Knowledge	Active involvement in learning
Frequent meetings with mentors and coaches: Revising lessons with mentor teacher	Pedagogy Knowledge and Content Knowledge	Applicability of learning to work and Supportive Environment
Professional Growth Modules/ Tech Tuesday Sessions	Technology Knowledge, Pedagogy Knowledge, and Content Knowledge	Opportunities for independence/Responsibility for own learning

Related Literature

Educators need new skills for online teaching, but what skills should a cyber-school focus on, and how do they prepare them to develop these competencies? Induction programs can help address these skills from the start of a new cyber teacher's career. Still, there is little prior research on effective induction programs and professional development for K-12 educators learning to design online courses (Shattuck, 2013). Currently, policies that direct K-12 cyber schools' practice fall behind in terms of what states are planning and developing to guarantee that online educators have the essential skills needed to teach online (Trust, 2017).

In general, the literature reports that online and in-person teaching is different, but few research articles hone in on the specific differences. Researchers often treated online and blended teaching

as the same, but they are not (Pulham & Graham, 2018). Recent months have also generated a whole new category of distance education: emergency remote education (Trust & Whalen, 2020). The recent pandemic highlighted the significant gap in teacher preparation for emergency remote education and distance learning as a whole (Trust & Whalen, 2020).

I reviewed literature that covers preservice teaching programs, induction and teacher development programs, and skills and best practices for online teaching. In the first section of the literature review, I provided an overview of online teaching experiences offered in preservice teaching programs. In section two, I examined induction programs and professional development programs for new online educators. There is a specific focus on the online environment and the significance of supporting teacher online instruction, not just technology. In section three, I investigated the skills and best practices needed to effectively teach online.

Preservice Teaching Programs

For decades, researchers have highlighted that teachers have been "ill-prepared to teach with technology" (Foulger et al., 2017, p. 418). The absence of an established inclusion of digital pedagogy into preservice teacher education curricula programs and field placement experiences further highlights this issue (Archambault & Kennedy, 2014). Preservice teachers who experience a preparation program that included course development techniques, authentic online assessments, and relationship-building strategies have a more extensive understanding of cyber education and a smoother transition into becoming online educators (Zweig & Stafford, 2016).

Virtual Field Placements. A distinct component of preservice educator programs is the immersive approach to having potential teachers experience classroom instruction through direct teaching opportunities. On-hands experiences include student teaching as well as additional field

experiences. Unfortunately, according to Archambault et al. (2016), 88.2% (320/363) of programs indicated that they did not provide a Virtual Field Experience (VFE), while 11.0% (40/363) responded that they did. The researchers also revealed that out of the universities that do not offer VFE for students, only 40.6% indicated that they thought their programs should (Archambault et al., 2016). Because field experiences are a critical component to preparing preservice teachers who are well-qualified, the researchers made a call to action for universities to expand their opportunities for virtual field placements.

It is evident there is a gap in the research literature on preparing preservice teachers in an online format. Consistent with Archambault et al.'s (2016) findings, numerous researchers have promoted universities' need to offer teacher candidates the chance to experience online placements for student teaching or Junior block (He, 2014; Kennedy & Archambault, 2012; Natale, 2011). Downing and Dymont (2013), endorsed the concept that potential teachers should experience online education first hand as students during their preservice teaching training. In their 2013 mixed-method study, the researchers created a questionnaire that included thirty-four closed and three open-ended questions for online teachers. The questions focused on three themes: teacher educator readiness and preparation, the effectiveness of professional development opportunities, and the appropriateness (or not) of training teachers in an online environment. The researchers found a positive correlation between the length of time a teacher has been online teaching and their confidence in online education effectiveness.

Although the studies mentioned contributed to the research conversations around the power and potential of online learning, preservice programs still remain tied to their standard placement format (Downing & Dymont, 2013). Without the experience of virtual field

placements, new cyber charter teachers need a standardized and quality induction program to help them transition into their new roles.

Teacher Preparation Practices for Online Learning Environments. Despite the increasing demand for educators who are prepared to teach online, teacher preparation programs' inclusion of digital pedagogies and virtual field placements is essentially non-existent (Kennedy & Archambault, 2012). Several researchers found that preservice teachers are often equipped with technology skills in isolation from the teaching methods and subject matter (Tondeur et al., 2019; Voogt & Mckenney, 2017). Crouse et al. (2018) emphasized the necessity of preservice programs that include curriculum and opportunities that prepare educators for the cyber environment. The researchers' primary data source was interviews conducted with six online teachers from three large national virtual charter school programs. All six participants shared that they had received no direct preparation for teaching in the online environment and described it as a barrier as they started their online teaching career (Crouse et al., 2018).

Even when preservice programs acknowledge that there are essential skills specific to online teaching, the program's adjustment to include online competencies is challenging. However, preservice teaching programs struggle to select online topics and competencies to add to their curriculum. McAllister and Graham (2016) addressed this need in their nationwide scan of teacher preparation programs specializing in online learning. Based on survey results, the researchers found that there are not consistently used or accepted resources for preparing online teachers. They called for the development of materials and aids for preparing online teachers around emerging national standards. Additional research in this field will provide a foundation for future online teacher preparation courses and programs as a whole.

Future research should look at the specific requirements preservice programs must include so that teacher candidates have a baseline of understanding of cyber schools (Kennedy & Archambault, 2012). After their exploratory study, Hathaway and Norton (2012) recommended preservice teaching programs and best practices for online teaching be further investigated. Kennedy and Archambault (2015) suggested preservice programs adopt common online teaching standards for the consistency and success of online students. Evaluating the requirements may lead to more continuity among cyber schools and new teacher training programs.

Teacher education programs need to prepare preservice educators for their future educational careers in any learning environment. Susan Patrick, President and CEO iNACOL, stated that “No teacher should start their career with anything less than complete confidence that they have been effectively prepared for Day One” (Kennedy & Archambault, 2015, p. 4). Many studies have focused on teacher preparation and the development of brick-and-mortar teachers. There is still a significant need for researchers to explore the ways undergraduate programs are helping preservice teachers prepare for teaching in the online environment. As the field of education evolves, preservice programs must also change, which requires an alteration to the curriculum and field experiences. The need for teacher preparation programs to prepare teachers for the online environment is evident (Dede, 2014).

Induction Programs

Based on the research literature on preservice programs, many universities are not preparing their teacher candidates for online instruction (Archambault et al., 2016). Preservice teaching programs are designed and organized to prepare future educators for classroom success; however, they do not accomplish that goal for educators that enter into alternative education fields like cyber charter schools (McAllister & Graham, 2016). Unsurprisingly, a lack of

preparation can cause new online educators to feel pessimistic about the cyber environment (Shattucket al., 2011). Cyber charter schools attempt to train and support online teachers via new teacher induction programs and professional development opportunities (Linton & Journell, 2015).

Although I could not find specific research into cyber charter induction programs or online teaching induction programs, I did investigate current studies that explored induction programs as a whole. Several researchers determined that only when an induction program is designed effectively will it positively impact new teachers. Teacher participants often shared positive feedback on multi-faceted programs that included orientation meetings, frequent communication with qualified mentors, and professional development opportunities like classroom observations and self-reflection opportunities (Hangül, 2017; Kearney, 2016).

Induction programs considered failures by new teachers were often disorganized and disjointed. When a school inconsistently implemented an induction program, it caused more stress than support for the new teachers (Kearney, 2016; Hangul 2017). In his 2017 study, Hangül investigated the experiences of eight new teachers in Turkey. He used a case study methodology to collect data on their first fourteen weeks of work. Hangul conducted semi-structured interviews with questions that focused on their teacher induction program. Several new teachers shared that the induction program was repetitive information and a very similar curriculum to their preservice program rather than an extension. New teachers also shared some of the induction program's positive components, such as mentor assignments and practice-based activities they experienced. The biggest drawback to the new teachers' induction was the significant amount of additional paperwork they were required to complete. All teachers found it an additional stressor unnecessarily added to their new role (Hangul, 2017.)

Similarly, in 2016, Kearney conducted a qualitative case study in Australia that focused on teacher induction programs and their impact on staff morale and self-efficacy. The researcher began by sending out a questionnaire to identify the appropriate schools to participate in the study. After selecting the schools, participants were selected. Kearney presented the case study on two schools: three teachers and one administrator, Case 1 and Case 2. Using semi-structured interviews, Kearney gathered data, and he also analyzed official school documents that detailed the induction program requirements and expectations. Teachers who participated shared they received no support, which contradicted the administrators' statements from their school. At the second school, administrators shared that they expected new teachers to seek out help independently. Administration designed induction experiences based on how they defined induction. Kearney (2016) concluded that the ineffective implementation of induction programs negatively impacted new teacher morale and self-efficacy.

Mentorships

The literature on induction often highlights the mentoring component of the program. It is important to acknowledge that mentoring is not only a state-required component of new teacher induction but in terms of effectiveness, it is a critical element (Joyce & Showers, 1995). Wortman et al. (2008) suggested that schools can support their online teachers by establishing mentor teachers. The mentoring model was shared after the researchers acknowledged that most online educators enter the position with: "classroom experience, content knowledge, minimal exposure to online teaching, and technology skills with an interest in using them (Wortman et al., p. 11)." The researchers shared that the benefits of having teacher mentors included teacher development for new online teachers, development of leadership opportunities for veteran teachers, and the development of communication skills for both new and veteran teachers.

Ultimately, this may create a collaborative and supportive culture among online teachers (Wortman et al., 2008). Lane (2013) found similar results with a mentorship program and how it can promote and develop a collaborative community for schools when effectively implemented.

Professional Development Programs

In addition to the induction program, cyber charter schools can continue to prepare their teachers for online instruction through designing quality professional development experiences. Professional development in the form of training specifically for developing and delivering online instruction is a broad topic in the research literature. Specialized training and development focused on designing online learning modules help educators empower online learners “to manage their own learning experience through time and energy management” (Sanga, 2018, p. 15). Mohr and Shelton (2017) used the Delphi method to create best practices for professional development for online educators. Gibbons et al. (2019) reviewed professional development as a vehicle to equip online teachers with the necessary skills for online instruction, while Shattuck (2019) defined it as “moving training into application and practice” (p. 428). Additionally, the advantages of integrating a collaborative learning atmosphere in online learning training have been documented (Richardson et al., 2020; Scarpena et al., 2018), and the inclusion of self-assessments to determine the level of readiness for training (Rhode et al., 2018).

Professional development needs to be individualized and presented in various ways because cyber charter teachers come from diverse backgrounds and have varying learning needs (Martin et al., 2019). Cyber charter teacher professional development can occur in both synchronous and asynchronous online courses (Dyjur & Lindstrom, 2017) that establish online learning communities or focus more on independent, flexible learning (Reilly et al., 2012). Professional development can also be provided as boot camps, seminar series, mini-courses,

webinars, hands-on workshops, peer training, or meetings with experts (Gosselin et al., 2016). These professional development opportunities can be more meaningful if they are designed based on the content that participants find applicable and useful (Walters et al., 2017). However, only a few existing studies relied on modeling best practices for online teaching and learning by delivering online professional development to online educators. Similarly, in Meyer and Murrell's (2014) national study of 39 higher education institutions, the researchers found an overwhelming prevalence of face-to-face delivery of teacher professional development to online teachers.

Online Professional Development Format

While it might take some instructors longer to adopt online teaching (McQuiggan, 2012), research studies have reported that online professional development increased knowledge and improved faculty perceptions when delivered in an online format. For instance, Elliott, Rhoades, Jackson, and Mandernach advocated for professional development via online modules and courses to model online instruction techniques (Elliott et al., 2015). Additionally, Rienties et al.'s (2013) analysis of pre-and post-tests found that, in addition to increased confidence, their 33 participants demonstrated significant increases in TPACK knowledge following completion of four online modules designed to improve faculty's ability to teach online. The modules were designed to last 8–12 weeks, allowing flexibility and autonomy for instructors to complete the work and reflect on their progress. As online learning technology continues to develop, little information exists on the effectiveness and preference of an online format to foster interactive professional development for instructors preparing to teach online (Elliott et al., 2015; Norton & Hathaway, 2015).

Development Versus Technology Training

Another significant aspect of the development of online teachers reinforced throughout the literature is the difference between professional development and technology training. (Lane, 2013; Natale, 2011). Natale (2011) posited that professional learning opportunities need to focus on best practices that online teachers must possess to be effective online instructors. The researcher also stated a need for research to investigate the essential features and design of successful online instruction beyond just necessary technology skills. Baran and Correia (2014) also suggested specific professional development models to prepare teachers for online instruction. Through their qualitative multiple-case study interviews, Baran and Correia (2014) discovered the significance of a professional development plan that focused on three levels: teacher, community, and organizational. According to the researchers, this model will help schools transition their staff in teaching online courses. The school must offer targeted support to teachers about digital pedagogies and course design. Baran & Correia (2014) also highlighted the need for collaborative opportunities that promote teacher peer-to-peer support.

During their year-long mixed-method case study, Storandt et al. (2012) conducted online surveys and telephone interviews with 110 online instructors. They used quantitative data (Learners' final course grades) to draw connections between effective ongoing educator support and student outcomes. They also collected qualitative data through interviews and journal entries. They coded both using Grounded Theory. Eighty-nine teachers (94.7%) shared that hands-on PD with extensive modeling and guided practice incorporating online instructional strategies was critical to their professional growth. After analyzing the data, the researchers recommended professional development plans that focus on online pedagogy and instructional strategies over technology skill training. When designing induction programs and professional

development opportunities, cyber charters school would benefit from focusing on integration techniques, not just technology training (Storandt et al., 2012).

Standards for Online Teaching

Cyber charter schools can utilize national standards for online teaching to help standardized their induction and professional development programs. Many organizations have designed and implemented standards to guide online educators to address the need for effective online instruction (iNACOL, 2011; ISTE, 2008). Rice (2012) shared how virtual teaching standards are seen as guidelines that include effective techniques to teach online. The researcher explains how they help brick-mortar educators transition from teacher-centered models to learner-centered models. Natale (2011) also stated that although reputable institutions create the standards, the standards never went through a formal evaluation process. Rice posited that educators shared negative feedback about the wording and application to various instructional roles like special education teachers and instructional coaches.

Reilly et al. (2012) leveraged Khan's Flexible Framework for Elearning and Communities of Practice (COP) to explore multiple faculty attributes relative to educational technology and online instruction. The researchers utilized this approach to COP, including video conferencing, campus leadership, yearly face-to-face conferences, and online courses over five years with multiple schools. Using self-report surveys, teachers indicated a) an increase in overall knowledge and understanding of e-learning, b) improvement in their ability to evaluate the design and delivery methods for online learning, and c) an intent to redesign courses utilizing the information they learning from the professional development sessions (Reilly et al., 2012). The available quantitative research into the delivery of K-12 online learning has yet to fully define or even begin to scratch the surface regarding effective online teaching.

There are recommendations for instructional design competencies that should be part of the online K-12 educator's knowledge base (Rozitis, 2017). Rozitis (2017) used a Delphi study utilizing experts from various organizations, including the Association for Educational Communications and Technology (AECT), to generate expectations for what instructional designers and online teachers should know and be able to execute. Thirty-eight educators participated in the study. Participants included high school teachers, instructional designers, preservice teachers, online high school administrators, and high school online instructional designers. Eighteen out of 38 participants have earned doctoral degrees, 11 held master's degrees, and two had bachelor's degrees. The Delphi design was used to analyze instructional design competencies and which ones are most essential to online educators. Rozitis revealed that the results indicated that designing and developing online courses is vastly different and more complex than face-to-face courses. Several teachers participating in the study stated that teachers should not edit their own courses. These participants discussed the teacher's traditional role, whose key function is to interact with learners, versus the instructional designer's function to create online courses and materials. Rozitis suggested that future studies should cluster groups differently to evaluate the competencies further (2017).

Foulger et al. (2017) utilized highly collaborative research methods to develop the Teacher Educator Technology Competencies (TETCs). Their methodology included researching technology-related literature, a Delphi method for expert feedback, and an open call for public feedback. Based on their research data, the researchers identified 12 teacher technology competencies with specific criteria related to each (Foulger et al., 2017). The competencies provide teacher educators guidelines on preparing preservice teachers for online environments. The researchers stressed the importance of including modeling the online learning environment

in preservice teaching programs. Like Rozitis, the researchers generated the competencies using a Delphi method.

Overall, there is still limited research on the effectiveness of specific induction and professional development models for teaching teachers how to design quality online courses, much less specific to K-12 (Rozitis, 2017). The lack of research available to guide districts, school administrators, and teachers on how to best prepare for delivering online courses to K-12 students necessitates that distance education researchers focus on induction programs and professional development geared towards online course design (Rozitis, 2017).

Digital Pedagogies

In addition to the inclusion of national online teaching standards, cyber charter induction programs are pressured to stay current with the latest instructional technologies. There is constant innovation and advancement in technology and technological resources, but a crisis such as the COVID-19 pandemic highlights the digital divide not just in supporting students but in teacher perceptions, attitudes, and actual preparedness, and the importance of induction programs (Ferdig et al., 2020).

Several studies support the notion that technology is a key component in virtual education. Researchers noted that cyber charter teachers must know technology resources; however, cyber charter teachers must also know how to effectively integrate the tools to enhance the online learning experience (Beck and Beasley, 2020). Technology knowledge is more than a teacher knowing how to utilize a tool to create online resources. Cyber charter teachers must also leverage technology to create engaging online learning modules and empower learners in the virtual environment (Tondeur et al., 2013).

The research literature regarding online education highlights how online lesson design and delivery is different from brick-and-mortar instruction, and it requires its own digital pedagogies and instructional strategies (Tondeur et al., 2019). Many traditional teaching roles and strategies are utilized in the cyber charter setting, but cyber teachers must also be adept in instructional design and pedagogical technologies (Rudy, 2016). For example, a cyber charter teacher must not only know how to navigate an LMS but utilize it as a collaborative tool for student engagement and support. In their 2012 quantitative study, Liu and Cavanaugh classified asynchronous student engagement and participation in the LMS as predictors of online academic success; not just time spent logged into the Learning Management System. The impact of teacher feedback and comments on student success was investigated in the study. The data collected was based on 547 students. The researchers used student grades and advancement placement examinations to measure students' academic success (Liu & Cavanaugh, 2012). Compared with brick-and-mortar teachers, online educators cannot observe cues such as facial expressions and body language to alert them of student confusion or frustration during the learning process. Cyber charter teachers could use data points such as the number of times students logged into the LMS and the time they spent in the LMS to help them understand a student's online behavior and understanding of a topic (Liu & Cavanaugh, 2012).

As digital natives, many new online teachers entering the field already possess strong technology knowledge, but need additional support in leveraging tools to achieve learning outcomes (Yurdakul, 2018). To become effective online educators, cyber charter teachers need to develop knowledge and a new set of skills conducive to creating a meaningful and successful learning experience for their learners. In their 2015 quantitative study, Ching et al. surveyed 36 prospective online teachers. Survey questions focused on the teacher's background with online

technology, digital pedagogy, assessment, and course design. Based on the survey results, the researchers discovered that the prospective online teachers had more exposure to a variety of online educational technologies than with digital pedagogies, online assessment, and online course design (Ching, Hsu, & Rice, 2015). Most cyber charter teachers need induction programs to help them effectively integrate technology into their courses and lessons (Ching et al., 2015). Other researchers conclude that cyber charter teachers need more professional development that focuses specifically on TPACK and its relevance to content area learning (Tondeur et al., 2019).

The ability to develop an online teacher presence is a critical skill for cyber charter teachers. They must adapt their course design, organization, facilitation, and instructional methods in the online learning space so that students can reach their learning targets asynchronously from a physical distance (Martin et al., 2019). During their 2019 exploratory study, Martin et al. examined faculty's perceptions of their ability to confidently teach online and create an online teaching presence. To elicit responses, the researchers developed a Faculty Readiness to Teach Online (FRTO) survey. Two hundred five teachers from the United States and 61 teachers from Germany participated in the survey. Based on the results, the researchers shared that online teachers need to understand how to use technology effectively.

When cyber charter teaching programs are designed, it is important to incorporate aspects of competencies in the FRTO instrument, such as course design, course communication, technical, and time management (Martin et al., 2019). Knowing experience levels can help cyber charter schools effectively design and prioritize what to include in new cyber teacher training and induction programs. Emerging digital technologies will continue to transform the delivery of asynchronous and synchronous lessons in the online learning environment and the education field as a whole (Ally, 2019). The new online learning environment components require cyber

charter teachers to adapt to their new roles. To address new teachers' knowledge gaps, cyber charter induction programs work to prepare their new staff not just for utilizing the new technologies, but also in designing asynchronous lessons and delivering effective and transformative synchronous student learning opportunities (Tondeur et al., 2019).

Summary

This chapter reviewed the historical background and literature related to online learning and teaching at the K-12 level. Most of the literature regarding online teaching competencies derives from expert opinion, with less reliance on survey data, interviews, or personal experience. Two theoretical frameworks associated with adult learning and technology were also detailed to help examine and understand new teachers' perceptions of their preparedness to teach online. There are gaps in the literature regarding developing a greater understanding of new online teachers' current skill levels. The concerns of new online teachers can inform the design of induction programs and professional development opportunities. There is no shortage of issues within the realm of K-12 online learning that needs investigation.

Chapter 3: Methodology

This study aimed to identify the elements of a teacher induction program that new cyber charter teachers perceived as contributing factors in developing their abilities to teach in an online environment. This study used an explanatory sequential mixed-method approach. According to Creswell & Plano-Clark (2018), an explanatory sequential design consists of first collecting quantitative data and then collecting qualitative data to help explain or elaborate on the quantitative results. During the research process, I incorporated multiple sources of data, including questionnaires, interviews, and journal entries to investigate new teacher induction as it relates to online instruction. Over a twelve-week period, I obtained detailed information using the three data collection procedures. Cyber charter schools could potentially use this study to develop and support new cyber charter teachers. The guiding questions that drove this study are:

1. How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment?
2. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment?
3. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?

This was a mixed-method study, using both qualitative and quantitative components. The majority of the study was qualitative, but the quantitative phase strengthened the research. The findings were supported by triangulating quantitative data from the questionnaire and qualitative data from a focus group and journal entries. All new teachers who agreed to participate in the

study completed an anonymous questionnaire regarding their induction program's perspectives in preparing them to teach online. The data was collected sequentially to explore and explain patterns that emerged in the induction program's new teacher perspectives. The data were triangulated in order to generate a series of findings. These findings lead to recommendations for improving the induction program at a cyber charter school. This chapter includes specifics regarding the research design, research question, data collection procedures, and how the data was analyzed.

Procedures

This research study employed an explanatory sequential mixed methods design (Creswell & Plano Clark, 2018). Explanatory sequential mixed methods are two-phase designs: Phase 1 involves collecting and analyzing quantitative data, followed by Phase 2's collection and analysis of qualitative data. In the study's quantitative data collection phase, I collected questionnaire data from new K-12 cyber charter school teachers from one school in Pennsylvania. In the Qualitative phase, I explored new teacher experiences and perceptions of the Cyber Charter School's induction program. In qualitative research, the goal is to understand the meaning participants form due to personal experiences and worldviews (Merriam, 2009). I aimed to highlight new cyber charter teachers' perceptions pertaining to their induction experience. The advances in this integrative explanatory sequential mixed methods approach allowed me to explain my quantitative survey results with qualitative interviews. Creswell and Creswell (2018) point out the importance of connecting quantitative data with qualitative methods. The qualitative data gathered from participants who can extend and elaborate on survey results (p. 299).

The instruments include an approved online survey facilitated through Qualtrics. The data collection procedures in an explanatory sequential design involved first administering a

questionnaire to participants and then following up with the qualitative data collection methods of a focus group interview and participant journal entries (Creswell & Plano Clark, 2018, p.190).

Data Collection Schedule

The questionnaire, focus group interview and journal entries are the primary data collection sources for this study. The schedule for collecting this data is illustrated in Figure 3.1 below.

Figure 3. 1

Data Collection Schedule



Note. This chart illustrates the data collection schedule for my study.

Using Qualtrics, I included the consent form and questionnaire as one document. As participants started to submit completed questionnaires, I compiled a list of participants who consented to participate in phase 2 of the study. I used an email and a doodle poll to establish a focus group interview time that worked for all phase 2 participants.

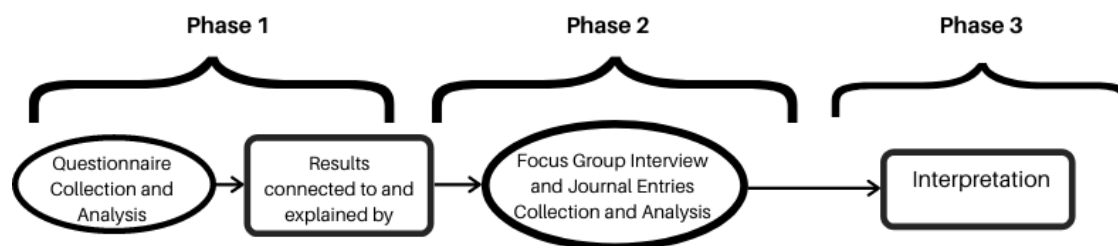
Research Design

The explanatory mixed-methods design used in this research study involved examining qualitative findings from interviews and journal entries and comparing and contrasting the findings with quantitative findings from an analysis of questionnaire data throughout the

investigative process. A quan + QUAL approach was used, indicating that although the study was qualitatively focused on exploring how teachers' perceptions of the induction program impacted their online teaching experience, both qualitative and quantitative methods were employed. Data from both sources were collected sequentially (Morse, 2003). The explanatory sequential design is diagrammed in Figure 3.2 below.

Figure 3.2

Explanatory Sequential Design



Note. Explanatory Sequential Design adapted from Creswell & Plano Clark, 2017.

Derived from pragmatist ideology, mixing methods is a design used by researchers to maximize the beneficial features of both qualitative and quantitative in answering the questions that drive their research (Maxcy, 2003). Corroborating evidence from multiple sources (i.e. questionnaires, focus group interview, and journal entries) and multiple methodologies (i.e. qualitative and quantitative) increases the strength and trustworthiness of the study (Anfara et al., 2002).

Participants

This study's target population is new cyber charter school teachers employed in the United States. I recruited the present study sample from the new teachers at one cyber charter school in Pennsylvania, and these recruits are from the 2019-2020 cohort of new hires at the Cyber Charter School (CCS). This is a sample of convenience and a purposeful sample because it gave me the best chance to understand the induction program at CCS and improve the

induction process for future cyber charter teachers. According to Merriam (2009), a convenience sample strategy is based on proximity to an accessible population. While convenience sampling has limitations, the strategy is frequently used in qualitative research (Merriam, 2009). Additionally, statistical generalizations are not the main focus of the study (Asiamah, et al., 2017). Any teachers who previously completed an induction program at a cyber charter school were excluded from participating in this study. Purposeful sampling was also utilized. Purposeful selection was the logical approach to selecting participants in this study due to needing input from new cyber charter teachers who directly experienced induction. According to Isaac & Michael (1997), the consequence is that an unknown portion of the population is excluded. All of the defined population individuals were recent induction participants, and I wanted current opinions and perceptions. Out of thirty-three potential participants, twenty teachers participated in Phase 1 of the study.

In explanatory sequential designs, the participants for the qualitative study are generally a purposive sample drawn from the quantitative study, which is generally the result of a probability sampling process (Creswell, 2013; Teddlie & Tashakkori, 2009). Five of the twenty questionnaire respondents volunteered to participate in Phase 2. The participant's ages ranged from 23-39. The method for selecting the sample for this study entailed first obtaining a list of all new first-year teachers during the 2019-2020 school year. The human resources office provided this list of teachers hired in the 2019-2020 school year. This list also included the new teachers' email addresses. On behalf of the researcher, an administrator from Cyber Charter School sent out the email invitation which included the anonymous questionnaire link. Participants received an introductory letter explaining the questionnaire's purpose and providing instructions for accurate completion. Participation was sought on a voluntary basis, and through

the consent form, participants were assured their questionnaire responses were anonymous. The consent form included a statement indicating the results would not be shared with the school's administration. Table 3.1 displays the demographic data of the participants in this study.

Table 3.1

Participant Demographics

Variable	N (%)
Age	
21-23	2 (10%)
24-26	8 (40%)
27-30	5 (25%)
31-34	4 (20%)
35-39	1 (5%)
Education	
Master's	5 (25%)
Bachelor's	15 (75%)
Years of Teaching Experience	
0-1	9 (45%)
2-3	6 (30 %)
3-5	1 (5%)
6 or more	4 (20%)

Setting

This study's setting was at one of the fourteen cyber charter schools in Pennsylvania. This particular cyber charter school provides education to students in grades kindergarten through 12th grade with a school enrollment of five thousand students when this research was conducted. It is considered a cyber charter school because the majority of instruction is conducted via the Internet or some other digital modality (Pennsylvania Department of

Education, 2004). The school employs three hundred teachers. Based on these details, the setting and its population meet the necessary criteria for this study.

Consent Process

An email was sent to 33 new teachers which included a link to a questionnaire administered through Qualtrics. Qualtrics is an online survey tool that allowed me to build and distribute my questionnaire through an anonymous link, and IP addresses were not tracked. In the first section of the questionnaire, a letter of consent included an explanation of the purpose of the study. It also informed teachers that participation was voluntary and all results would be anonymous. If a teacher selected yes to the questionnaire's consent section, they were then directed to the twenty-five-item questionnaire. If they selected no, the questionnaire ended.

Measures/Instruments

Three types of instruments were used to compile data. The instruments included a researcher-developed online questionnaire administered through Qualtrics. The questionnaire included a Demographics section, a Likert scale section, and three open-ended questions (Appendix C). Interview questions (Appendix D) were asked in a focus group format through Zoom. Journal entries were also collected from the phase two participants (Appendix E). Table 3.2 displays the instruments used, the research question it addressed and analysis techniques used.

Questionnaire Methodology

An email invitation to participate in the questionnaire was sent to all 33 new teachers of the 2019-2020 induction program. Of the population of 33 hires, 20 participants completed the online survey (60.6%). Of the participants who completed the survey, 5 (35%) of those

participants indicated a willingness to participate in a follow-up focus group and journal entry process.

Table 3. 2

Strategy, Sample, Research Question and Analysis

Strategy	Sample	Research Questions	Analysis
Questionnaire	convenience sample (20 Teachers)	1. How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment?	Descriptive Statistics Analysis of variance (ANOVA) Chi-Square
Focus Group	Participants that volunteered for Phase 2 (5 teachers)	2. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment? 3. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?	<i>In vivo</i> thematic coding
Journal Entries	Participants that volunteered for Phase 2 (5 teachers)	2. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment? 3. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?	<i>In vivo</i> thematic coding

Questionnaires are an effective method to gather feedback from stakeholders, especially pertaining to program evaluations (Fink, 2008). According to Creswell (2008), a questionnaire is

an instrument for collecting data from a sample to describe, compare, relate, or predict their attitudes, opinions, behaviors, characteristics, or knowledge. I attempted to locate a questionnaire that would help answer my research questions. I could not find an established questionnaire that would elicit the data needed for this study. Using the topics and themes that emerged from my literature review, I created items that assessed participants' perceptions of the induction program and used the data to report descriptive and correlational variables from the new cyber charter teachers. The purpose of the questionnaire was to provide a numeric description of participants' ability to design online lessons within a learning management system and deliver online instruction through Zoom, a video conferencing tool, after participating in New Teacher Academy and the Induction program (Creswell, 2008).

The questionnaire went through a validation process. It was checked against the literature in the field, and it was reviewed by three cyber charter educators with over 10 years of online experience. Each of three expert educators hold at least a Master's degree in Educational Leadership. The three expert teachers helped review and revise the questions to increase content validity (Fink, 2008). Likert scale questions were adjusted for clarity and refined to ensure the maximization of the research questions gleaned the most useful data to evaluate new teachers' perceptions of the induction program in preparing them to teach online. Double-barreled questions were edited and updated to two separate questions to ensure new teachers were rating one item at a time. A link to the questionnaire was emailed via the recruitment email to new teachers and administered through Qualtrics.

The questionnaire consisted of eight general demographic questions such as age, teaching experience, grade level, and certifications. Using Johnson and Turner's (2003) typology, the mixed-methods data collection strategy was a mixture of open- and closed-ended items. The

thirteen Likert scale questions focused on the characteristics of the induction program, the quality of the induction program, the mentor experience, professional development embedded in induction such as New Teacher Academy, and additional supports for the design and delivery of online lessons. The entire questionnaire can be found in Appendix C. A 5-point Likert scale was used to determine the perceived satisfaction of new cyber charter teachers with regard to their specific induction program in preparing them to teach online, 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, and 5 = Strongly Agree.

There were three open-ended questions that prompted new teachers to share specific examples of their experiences with induction and its impact on their design and delivery of online instruction. The open-ended questions acted as a questionnaire variant. According to Creswell and Plano Clark, open-ended questions can validate the data from the close-ended questions. They are an add-on to the quantitative instrument to help establish emergent themes (p. 73). At the bottom of the questionnaire was a recruiting question asking participants if they were interested in phase 2 of the study, which included a focus group interview and journal entries. If participants selected yes, they were prompted to provide their first name and email address. If they selected no, it took them to the end of the questionnaire. The questionnaire took approximately twenty minutes to complete.

I utilized statistical software SPSS to calculate two different measures of central tendency and the standard deviation. The mean, median, and standard deviation were analyzed to include single numerical values that were utilized to describe the entire set of questionnaire results. I calculated positive response rates and negative response rates from the new teachers. The numerical data produced by SPSS were utilized to establish statistical themes in order to produce

narratives. Table 3.3 displays how the items on the questionnaire align with the research questions from this study.

Table 3.3

Questionnaire Research Alignment

Questionnaire Item	Research Questions
After completing induction, I was prepared to teach online.	1
Induction enhanced my lesson preparation and development in an online environment.	2
The Induction program included sessions on developing teaching strategies in an online environment.	1
During Induction, I was intentionally trained and adequately prepared with the technology skills to utilize resources in an online environment.	1
During NTA, induction, and professional development offered at my online school, I was adequately prepared to utilize a learning management system.	2
The professional development sessions available through Induction at my online school have adequately prepared me to design and develop lessons in an online environment.	2
The professional development sessions have prepared me to deliver synchronous lessons in an online environment.	3
Induction programs prepared me to deliver asynchronous lessons through a Learning Management system	2
Induction programs prepared me to teach synchronous lessons through a video conferencing tool.	3
I feel confident in teaching in an online environment.	1
The induction program prepared me to implement the curriculum in an online environment.	3
My peer partner and/or mentor provided support to me as a new online teacher.	1
Describe how you were prepared or how you prepared yourself to instruct students online?	1, 2, 3

Focus Groups Methodology

The focus group approach is a type of qualitative research methodology typically described as a structured discussion with a small group of people run by a researcher (Barrows, 2000, p. 193). The term focus group emphasizes that participants will discuss a precise topic of interest, in this case, the induction program at the cyber charter school, rather than broad generalities (Boddy, 2005). One of the advantages of using focus groups for qualitative data collection cited by Kitzinger (1995) is the idea that focus groups provide the opportunity for participants to interact with each other and elaborate on something another member of the group says or disagree with a particular point of view. The focus group format allowed me to elicit in-depth insights into the experiences of new teachers with the induction program (Barrows, 2000), as well as to collect a certain amount of information (Krueger, 1994; Gibbs, 1997; Barrows, 2000) and opinions from a small number of new teacher participants in a short time. Krueger & Casey (2000) recommend between six and eight participants, as smaller groups show greater potential. Five teachers participated in the single remote focus group portion of this study.

Based on the questionnaire responses, interested participants were contacted via email to participate in the Focus Group and Journaling process. Five participants volunteered for phase 2. There are 15 question prompts for the focus group interview. The focus group was conducted via Zoom, and the session was audio and visually recorded and transcribed verbatim (Creswell & Plano Clark, 2018). The participant's specific transcription (only their own comments were included) was emailed to them individually following the interview for member checking. Participants checked for accuracy and resonance with their experiences. The purpose of the interview is to explore the beliefs, experiences, knowledge, and points of view of new teachers of the induction program in preparing them to instruct their students in an online environment. The

Focus-group interview was scheduled two weeks after the close of the survey. The purpose of these open-ended discussions with participants who took the questionnaire will help explain the results (Creswell, 2013). A protocol for the interview was developed following the analysis of the data from the questionnaire. The focus group interview was conducted via video conferencing using Zoom and took approximately 45 minutes. To reduce the elapsed time between the experience and the moment of data collection as well as reduce the distortion of the meaning by memory and reconsiderations over time. In addition to audio recordings, the researcher kept written notes. Guided by research questions presented in the previous chapter as well as questionnaire responses, a semi-structured focus interview guide was developed. Questions were designed to help elucidate new teachers' perceptions of the induction program and its impact on their ability to teach online.

Member checking (Creswell, 2007) was used in two ways: first, I sent focus group interview transcripts to each participant for review and revision. I also shared drafts of written analysis and interpretations to participants providing them an opportunity to offer supplemental information and alternative perspectives (Creswell, 2008).

Reflective Journals

In addition to their focus group responses, the five focus group participants provided data in the form of open-ended journal entries in which they responded to reflection prompts. The journal prompts were designed to help the participants focus their thoughts on aspects of the induction program that prepared them to teach online. The five participants provided one journal entry response approximately one paragraph in length per week for six weeks, making a total of 30 journal responses across all participants. The journal responses from across the six weeks were compiled and saved as one Microsoft Word document per participant. Participants were

provided due dates for each journal entry, and they were sent reminders each week. According to Jacelon and Imperio (2005), researcher follow-up increases the volume of data by reminding participants to write or record regularly when it comes to participant journal entries.

Journal entries can be used to triangulate claims made by respondents in different data sources (Schroder et al., 2003) or provide more richness and detail to the individual narrative. The use of reflective journals provided an opportunity for me to hear new teachers' voices as they expressed the thoughts and changes they experienced as a part of their learning experience through the induction program (Dunlap, 2006). Journals can provide participants with a means to respond to researcher-requested topics and document reflections that share the stories of their specific experience (Jacelon & Imperio, 2005). New teachers invited to participate in the focus group were asked to maintain an electronic journal of their professional collaborative experiences and their perceptions of these experiences for six weeks. The participants were asked to use the journal at least twice per week for six weeks to elucidate the various facets of the induction process and express any professional reflections. There was a weekly prompt (six prompts total). The first prompt asked teachers to focus on New Teacher Academy professional development. The remaining five involved their transition to Online Teaching, their use of online instructional tools, and their perceptions of the induction program. The specific prompts were as follows:

- Prompt 1: What is your overall impression of Induction? What parts of Induction were the most beneficial? What areas of Induction could be improved to better meet the needs of new online teachers?
- Prompt 2: have you been prepared to deliver synchronous lessons through video conferencing tools such as Zoom?

- Prompt 3: How have you been prepared to design online asynchronous lessons in an LMS?
- Prompt 4: What could be included in the induction program to better prepare you for the delivery of synchronous lessons and the design of asynchronous lessons?
- Prompt 5: What resources have you found to be the most beneficial as you began your career as an online educator?
- Prompt 6: What aspects of online teaching do you feel the most confident in?
What aspects of online teaching do you feel are your weakest?

Using SharePoint, I shared an individual Microsoft Document Journal template with each participant for them to maintain their journal entries. The Microsoft Document was password encrypted to ensure the data and information is protected. The journal entries (collectively) took about 45 minutes of the participant's time. Participants' journal entries were labeled with their de-identifier, for example, "A1," to provide confidentiality of their responses.

Procedures

The process began by submitting and receiving approval from the Institutional Review Board (Appendix F). After receiving approval, I worked with the Human Resources Director at the cyber charter school to identify teachers who fit the criteria in the sample section of this chapter. Once the list of potential participants was generated, I emailed them the purpose of my study and information about participating, which included the questionnaire link that contained a consent form, questions, and recruiting questions for phase two of the study. The initial email was sent on September 20th. The survey was available from September 20th to the first week of November 2020. Reminder emails were sent out every week.

Data Analysis

After the data was collected I evaluated, examined, and analyzed the information for trends, tendencies, and themes presented by the data. Triangulation occurred through the use of multiple data sources, including the Likert-scale questionnaire questions, open-ended survey questions, focus group interview questions, and journal entries. A method of triangulating data from three sources (questionnaire questions, interview questions, and journal entries) increased the reliability of the study (Creswell & Plano Clark, 2018).

Questionnaire Analysis

Once questionnaires were collected, I began analyzing the data using multiple procedures. First, a descriptive analysis was conducted to discover the general trends of the data. Using percentages, I tallied the frequency of each of the five Likert scale responses for each question to provide a view of the new cyber charter teacher perceptions. The responses were then categorized by the three age groups, the two years of experience groups, and three-division level assignments to gain a clearer picture of teacher perception in each of the school categories. Responses were also represented as the mean response of the Likert items. Skewness and kurtosis indexes were used to identify the normality of the data.

To determine if the mean responses differed based on demographics, such as age, teaching experience, division, and education level, a one-way analysis of variance (ANOVA) was employed. ANOVA is used to detect significant mean differences in a continuous dependent variable amongst different levels of a categorical variable. To compare the results of the ANOVA tests treating the dependent variables as intervals with treating the responses as categorical, Chi-square tests of association were also conducted. The chi-square test is one of the most widely utilized tests of significance when dealing with nominal data (Ary et al., 2014). It

can be used with samples of various sizes, including small samples which makes it appropriate for this study (Tanner, 2012).

Interview Data Analysis

The focus group interviews were recorded, notes were taken, and data were analyzed using constant comparative (Glaser, 1965). The verified focus group transcript was imported into NVivo 12 computer-assisted qualitative data analysis software for analysis. The first stage of the analysis consisted of initial coding. While reading and rereading the journal and focus group data, I assigned relevant excerpts to NVivo nodes, which were labeled with brief, descriptive phrases to indicate the meaning of their contents. The nodes represented initial codes. When different data excerpts expressed similar meanings, they were assigned to the same node. The third step of the analysis involved focused coding. During this step, initial codes were combined to form overarching themes representing comprehensive patterns of meaning in the data. Initial codes were grouped when they converged on a similar idea relevant to addressing a research question.

Journal Data Analysis

After focused coding was conducted for the focus group data, the journal entries were coded into the initial and focused codes developed for the focus group. Using Moustakas' (1994) approach of phenomenological analysis, I analyzed new cyber charter teacher journal entries that called for an intensive and repetitive reading of the collected narratives. I looked for themes related to the quality of the induction program experienced by the new cyber charter teachers in preparing them to teach online. For the journal entries, I used open coding. I made notes as I read to help form the initial codes. I then used a process of highlighting key terms for individuals.

Next, I grouped clusters of information into categories and themes based on commonalities to attempt to find meaning in the experience.

Identifying Themes

Using NVivo, I analyzed the data gathered and identified the themes that emerged from that analysis. Results were tabulated using frequency tables from data collected in the focus group discussion and journal entries. All data were analyzed and themes were identified. When an initial code relevant to addressing a research question was identified for the first time in the journal data, a new initial code was created for it. The initial codes aligned to research questions that were identified in the focus group and journal data were grouped to form the focused codes or themes.

Validity and Reliability/Trustworthiness

Reliability is defined as the consistency of results over time with an accurate representation of the study population (Golafshani, 2008). Reliability was assured in this study through the use of triangulation. This study utilized multiple data sources triangulation, including Likert scale survey questions, open-ended survey questions, focus group interviews, and journal entries. The audio-recorded focus group interview was transcribed verbatim by Zoom and verified by individual participants and me through member checking (Creswell, 2008). All identifying information was deleted from the interview transcripts.

For the member checking process, I emailed each participant the narrative text from Zoom that related to their specific responses to the focus group questions. Each member confirmed the transcript, thus ensuring their responses were accurately transcribed void of researcher error. This study's interview protocol was created based on criteria found in the literature to increase reliability. The focus group questions were mapped into an interview

protocol matrix, as shown in Table 3.4. I examined the questions and noted any gaps that may be present. To fill in the gaps, I added relevant questions into the protocol based on my research questions (Castillo-Montoya, 2016).

Table 3.4

Interview Protocol Matrix

Question	Background Information	RQ #1 How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment?	RQ #2 What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to develop asynchronous lessons for a cyber-environment?	RQ#3 What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?
Interview Q1	X			
Interview Q2	X	X		
Interview Q3		X		
Interview Q4			X	
Interview Q5		X		
Interview Q6			X	X
Interview Q7		X		
Interview Q8			X	X
Interview Q9		X		
Interview Q10		X	X	X

Note. RQ = Research Question

The interview protocol began with the introductory questions which elicited background information such as demographics and experience with online learning and teaching and their

current role at the school. These introductory and probing questions were constructed to facilitate conversational interaction. The focus group interview is continued with open-ended questions on the induction program and participant experience as new online teachers. The interview protocol was designed with a final open-ended question that allowed participants to share their final thoughts and experiences.

Internal Validity

The research's validity was established through the use of a group of professional educators who assisted in aligning the survey and interview questions to answer the research questions, offer feedback, and make recommendations for potential modifications. The instrument was corrected after the input was received. Inter-rater reliability was also established using Cohen's kappa. A colleague involved in the induction program also coded the focus group interview. Cohen's kappa is suitable for use when two coders are coding the same dataset (Cohen, 1960). There was substantial agreement between the two raters, $k = .85$, $p < .0005$. I individually coded the remainder of the data. Creswell and Plano Clark stated (2018), "procedures that reduce threats to internal validity ("Validate the Data and Results," para. 1) are the triangulation of data, member checking, and transcription verification. This study should be considered internally valid for the utilization of all three procedures.

External Validity

Since this research was conducted at a single cyber charter K-12 school, generalizing the results of the study is a concern. Also with the impact of COVID-19, the sample size was smaller than anticipated. This study's participants are also new teachers who already have numerous stressors being new to the field. The sample of participants does range in age, experience, content area, and division.

Researcher Bias

As a former cyber charter teacher who completed induction and now cyber charter administrator, I do have close connections with the cyber charter induction program. My preservice program never incorporated any other educational environments into the curriculum other than the traditional brick-and-mortar schools; therefore, I was never informed or prepared for the cyber charter teacher's job. Due to this experience, I am biased towards preparing cyber charter teachers for the cyber environment and the need for cyber charter schools to utilize their induction program to accomplish this task. From my own experience, I see the value of preservice programs to include other school settings into their curriculum and field experience that they provide their undergraduate students. By reflecting on and disclosing my bias and experiences, I hope to improve my research's validity and reliability (Merriam, 2009).

Summary

The purpose of this study was to evaluate the perceptions novice teachers have of their New Teacher Induction Program and the impact it had on their ability to teach in the online environment. I distributed and analyzed the results represented in various themes and domains. Additionally, I gathered data using questionnaires, focus group, and journal entries. With more information gathered, cyber charter schools can make informed decisions about updating their induction program.

Chapter 4: Results

This mixed-methods study examined one cyber charter school's new teachers' perceptions of the induction program in preparing them for online instruction. Although researchers have focused on new teacher preparation and support, a limited number of studies examined ways that K-12 cyber charter teachers are prepared and supported during their first several years of teaching. The focus of this study was to identify new teacher perceptions of their induction program at one cyber charter school. I explored the school's induction program and new teachers' perceptions of how the program prepared them to teach online at the cyber charter school.

Twenty cyber charter teachers from the CCS participated in the study. Additionally, all questionnaire respondents were allowed to participate in the follow-up focus group discussion and journal entry process. Questionnaire data was recorded electronically through Qualtrics, and the focus group was conducted via Zoom. Zoom contains transcription and recording capabilities that were used for the interview. Due to its security and encryption benefits, SharePoint was used to share and collect participants' journal entries. I compiled the responses from the questionnaire, focus group and journal entries. I then categorized, analyzed, evaluated, and synthesized the data by themes and patterns.

The questionnaire was sent to 33 new cyber charter teachers who participated in the induction program from CCS. Out of the 33 total questionnaire links emailed, 20 were completed with-in the four-week time period. This represented a 60.6% return rate. All 20 questionnaire participants completed all 24 questions resulting in a participation rate of 100%. Voluntary respondents were asked to participate in a face-to-face focus group interview and journal entry process. Of the 20 questionnaire participants, 7 (35%) agreed with 5 (25%) completing phase

two of the study which included the focus group interview and journal entries. Chapter Four contains data harvested from the twenty-four item Qualtrics questionnaire, ten focus group questions and five journal prompts.

Sample

The setting of this study was a cyber charter school in Pennsylvania. This cyber charter school provides education to students in grades kindergarten through 12th grade. At the time when this research was conducted, the school employed three hundred teachers and had an enrollment of five thousand students. The sample for the present study was recruited from the new teachers at one cyber charter school in Pennsylvania. Through purposeful sampling, 20 participants were obtained.

Data Collection

The questionnaire consisted of eight demographic questions, thirteen Likert scale questions, and three open-ended questions. The 13 Likert scale questions focused on the characteristics of the induction program, the quality of the induction program, the mentor experience, professional development embedded in induction such as new teacher academy, and additional supports for the designing and delivery of online lessons (see Appendix C). A 5-point Likert scale was used to determine the perceived satisfaction of the new cyber charter teachers with regard to their specific induction program in preparing them to teach online. The scale items ordered responses from level of agreement to disagreement 1 = Strongly Agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree, and 5 = Strongly Disagree. The Likert scale is widely used in social work research and is commonly constructed with four to seven points. It is usually treated as an interval scale, but strictly speaking, it is an ordinal scale. However, with at least five points, the scale may be treated as an interval (Norman, 2010). In this study, the mean of the

responses was calculated in order to obtain an overall measure of agreement, with greater values indicating less agreement.

Additionally, Chi-Square analysis was performed to determine if there were associations between the demographic data such as division level (Elementary, Middle School or High School) and years of teaching experience and teachers' perceptions of the induction program. The chi-square test is one of the most widely utilized tests of significance when dealing with nominal data (Ary et al., 2014). It can be used with samples of various sizes, including small samples, which makes it appropriate for this study (Tanner, 2012).

Analysis of Quantitative Data

Descriptive statistics were used to report the demographic data obtained from the questionnaire. In total, 20 teachers responded to the 13- item Likert scale section of the survey. The ages of the 20 participants were grouped into five categories, as shown in Table 4.1. The second age group, 24–26-year-olds, made up the majority of the questionnaire participants, with 8 (40%). There were 5 (25%) participants aged 27–30 years, 4 (20%) participants aged 31–34 years, two (9.52%) at 21-23, and one (5%) participant aged 35-39 years. There were no participants over the age of 39. Table 4.1 depicts a breakdown of the participant's ages.

Regarding teaching experience, forty-five percent (9) of the participants indicated that they had 0-1 year of teaching experience prior to starting at Cyber Charter School. Thirty percent (6) of the participants indicated they taught 2-3 years, 20% (4) participants taught for 6 or more years and 5% (1) taught between 3-5 years. The participants also indicated their previous online learning experience as a teacher or as a student. Eighty percent (16) of the new teachers had no prior experience, fifteen percent (3) had some experience (1-4 years) with online learning and five percent (1) of the teachers indicated having extensive experience (over four years) with

online learning. Table 4.2 summarizes participants' responses related to their previous experience with online education as a student and/or a teacher.

Table 4.1

Age of Questionnaire Participants

Years of age	%	Count
21-23	10%	2
24-26	40%	8
27-30	25%	5
31-34	20%	4
35-39	5%	1
40+	0	0
TOTAL	100	20

Note. N=20.

Table 4. 2

Survey Respondents' Previous Experience with Online Learning

Level	%	Count
No Experience	80	16
Little Experience	15	3
Extensive	5	1
TOTAL	100	20

Note. N=20.

A large percentage of participants, 15 (75%), indicated earning a Bachelor's degree, and the remaining participants, 5 (25%), have earned a Master's degree. It is important to note that the Cyber Charter School is a K-12 school. The school splits certain grades into a particular division. Grades 1-5 are the elementary division, Grades 6-8 is the middle school division, and

grades 6-12 are the high school division. Most participants taught high school, 10 (50%). This was followed by elementary, 5(25%) and middle school, 5 (25%). A summary of the responses is provided in Table 4.3.

Table 4.3

Division Taught

	Frequency	Percent
Elementary	5	25.0
Middle	5	25.0
High School	10	50.0
Total	20	100.0

Thirteen Likert scale questions focused on the characteristics of the induction program, the quality of the induction program, the mentor experience, professional development embedded in induction such as new teacher academy, and additional supports for the designing and delivery of online lessons (see Appendix A). A 5-point Likert scale was used to determine participants' perceived satisfaction with regard to their specific induction program in preparing them to teach online, 1 = Strongly agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree, and 5 = Strongly Disagree. Responses are reported as frequencies and the mean responses were calculated for each item. **Quantitative Results**

This section is a presentation of the quantitative results in this study. In subsections one through three, I review the quantitative results for each of the research questions. The fourth subsection includes descriptive statistics for each Likert item, and the fifth subsection includes inferential statistics.

Quantitative Results to Answer Research Question One

The first research question examined the participants' perceptions of their induction program for preparing them to teach at The Cyber Charter School. I investigated the first research question by including five Likert-scale questions (1, 4, 5, 11, and 13). Item one asked participants if, after completing induction they were prepared to teach online. Sixteen participants (80%) strongly agreed or agreed with the statement. Three participants neither agreed nor disagreed, and one participant strongly disagreed with this statement. When asked if the Induction program included sessions on developing teaching strategies and digital pedagogies that prepared me for online instruction, seventeen participants (85%) strongly agreed (35%) or agreed (50%) with the statement. Eighteen participants (90%) agreed that they were intentionally trained and adequately prepared with the technology skills to utilize resources in an online environment, while one participant remained neutral and one strongly disagreed. Table 4.4 provides a summary of participants' responses related to research question one.

Table 4.4

Participants' Responses to Survey Statements Pertaining to Research Question Number One

	SA	A	N	D	SD
1. After completing induction, I was prepared to teach online.	6 (30%)	10 (50%)	3 (15%)	0	1 (5%)
4. The induction program included sessions on developing teaching strategies & digital pedagogies. that prepared me to teach online.	7 (35%)	10 (50%)	1 (10%)	2 (10%)	0
5. I was intentionally trained & adequately prepared with the skills to utilize resources in an online environment.	8 (40%)	10 (50%)	1 (5%)	0	1 (5%)
11. After induction, I feel confident in teaching in an online environment.	5 (25%)	13 (65%)	2 (10%)	0	0
13. My mentor provided support to me as a new online teacher.	8 (40%)	6 (30%)	4 (20%)	1 (5%)	1 (5%)

Note. N = 20

Quantitative Results to Answer Question Two

The questionnaire included four Likert scale questions (3, 6, 7, and 9) specifically focusing on research question two, which asks if the induction program prepared participants in their development and design of asynchronous online lessons. By completing the questionnaire, all 20 new teachers indicated how confident they were in developing asynchronous lessons in the cyber-environment after completing induction. Table 4.5 provides a summary of participants' responses related to research question two.

Table 4.5

Participants' Responses to Survey Statements Pertaining to Research Question Number Two

	SA	A	N	D	SD
3. Induction enhanced my lesson preparation and development in an online environment. (TPACK)	7 (35%))	9 (45%)	3 (15%)	1 (5%)	0
6. During the New Teacher Academy and induction offered at my online school, I was adequately prepared to utilize a learning management system. (Technology Knowledge)	8 (40%))	10 (50%)	1 (5%)	0	1 (5%)
7. The professional development sessions available through Induction at my online school have adequately prepared me to design and develop lessons in an online environment. (TPACK)	6 (30%))	9 (45%)	3 (15%)	2 (10%)	0
9. New Teacher Academy and induction programs prepared me to deliver asynchronous lessons through a Learning Management system (Pedagogy and Technology knowledge)	5 (25%))	11 (55%)	3 (15%)	0	1 (5%)

Note. N = 20

Eighteen participants strongly agreed (40%) or agreed (50%) that during the New Teacher Academy and induction they were adequately prepared to utilize the learning management system, Canvas. One participant neither agreed nor disagreed, and one participant strongly disagreed with the statement. Looking at the ongoing induction opportunity of PD, fifteen participants strongly agreed (30%) or agreed (45%) that sessions available through Induction have adequately prepared them to design and develop lessons in an online environment. Three participants (15%) were neutral to the statement, and two (10%) participants disagreed that the ongoing professional development through induction prepared them to develop online lessons. Lastly, when asked if New Teacher Academy and the induction programs prepared them to deliver asynchronous lessons through an LMS, five participants (25%) strongly agreed, and eleven participants agreed (55%). Three participants (15%) indicated that they neither agreed nor disagreed with the statement, and one participant strongly disagreed.

Quantitative Results to Answer Question Three

Research question three was intended to help me find out how well the participants felt the induction program helped them to deliver synchronous lessons in the cyber environment. The questionnaire included three Likert scale items 8, 10 and 12 focusing on their level of preparedness in delivering synchronous online lessons. By completing the questionnaire, all 20 new teachers indicated how prepared they were in delivering synchronous lessons in the cyber-environment after completing induction. Seventeen participants strongly agreed (40%) or agreed (45%) that NTA, Induction, and the professional development sessions prepared them to deliver synchronous lessons in an online environment. Two participants neither agreed nor disagreed, and one participant disagreed with the statement. When asked about their technology knowledge

in respect to the induction programs preparing them to teach synchronous lessons through a video conferencing tool, eighteen participants (80%) strongly agreed (40%) or agreed (40%). Three participants (15%) neither agreed nor disagreed, and one participant disagreed with the statement. Table 4.6 provides a summary of participants' responses related to research question three.

Table 4.6

Participants' Responses to Survey Statements Pertaining to Research Question Number Three

	SA	A	N	D	SD
8. NTA, Induction, and professional development sessions have prepared me to deliver synchronous lessons in an online environment. (TPACK)	8 (40%)	9 (45%)	2 (5%)	1 (5%)	0
10. The induction program prepared me to teach synchronous lessons through a video conferencing tool. (Technology Knowledge)	8 (40%)	8 (40%)	3 (15%)	1 (5%)	0
12. The induction program prepared me to deliver the curriculum in an online environment. (Content Knowledge)	10 (50%)	6 (30%)	3 (15%)	1 (5%)	0

Note. N = 20

Item 2 did not align directly with one of the three research questions. It was included to assess whether participants were pursuing advanced degree programs in instructional technology or online educator certifications to prepare themselves for online instruction in addition to the induction program. If a participant was receiving additional preparation to teach online through graduate courses, I wanted to factor that into my analysis of the data and include questions in the interview process to gather more information on those supports. Six of the twenty participants

(30%) indicated they were enrolled in graduate courses to further their preparation to teach online.

Descriptive Statistics

Responses to each of the Likert items were also represented using percents and means, and the descriptive statistics for each item appear in Table 4.7 below. All responses, with the exception of Item 3, had mean responses less than three (a neutral response). Item 2 had a mean response above three ($M = 3.20$, $SD = 1.32$), indicating the average response was a neutral response to the statement. Item 2 asked participants if they plan or if they are already pursuing a certificate or advanced degree in online education.

Skewness and kurtosis indexes were used to identify the normality of the data (Table 4.4). The results suggested the deviation of data from normality was not severe as the value of skewness and kurtosis index were below 3 and 10 respectively (Kline, 2011). Hair et al. (2010) and Bryne (2010) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7.

Inferential Statistics

Inferential statistics were utilized to evaluate the differences in questionnaire responses based on demographic data such as age, teaching experience and division level. One –way analysis of variance (ANOVA), Tukey HSD, and chi-square were used to analyze the data collected from the Likert items in the questionnaire.

Table 4.7*Descriptive Statistics*

	N	Min	Max	M	SD	Skewness	Kurtosis
Q1	20	1.00	3.00	1.80	.62	.120	-.207
Q2	20	1.00	5.00	3.20	1.32	.049	-.973
Q3	20	1.00	4.00	1.90	.85	.771	.354
Q4	20	1.00	4.00	1.90	.91	1.138	1.157
Q5	20	1.00	5.00	2.00	.97	1.522	3.705
Q6	20	1.00	5.00	1.80	.95	2.069	6.177
Q7	20	1.00	4.00	2.05	.94	.726	-.031
Q8	20	1.00	4.00	1.80	.83	1.018	1.080
Q9	20	1.00	5.00	2.05	.94	1.558	4.109
Q10	20	1.00	4.00	1.85	.88	.839	.254
Q11	20	1.00	3.00	1.85	.59	.004	.178
Q12	20	1.00	4.00	1.75	.91	1.017	.260
Q13	20	1.00	5.00	2.05	1.15	1.059	.783

One-way ANOVA

A one-way analysis of variance (ANOVA) was used to determine if the mean responses differed based on demographic factors such as age, teaching experience, and division level. SPSS was used to compute the results. ANOVA is used to detect significant mean differences in a continuous dependent variable amongst different levels of a categorical variable.

Age. Regarding age, ANOVA was conducted with SPSS. The ranges in age groups were the following: ages 21-26, 27-30, and 31-39. Normality of data, as well as outliers, were addressed previously and there were no violations. Table 4.8 provides the results of the ANOVA for each of the 13 dependent variables.

Table 4.8

ANOVA by Age

		Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Q1	Between Groups	1.658	4	.415	1.122	.383
	Within Groups	5.542	15	.369		
	Total	7.200	19			
Q2	Between Groups	8.833	4	2.208	1.359	.294
	Within Groups	24.367	15	1.624		
	Total	33.200	19			
Q3	Between Groups	2.958	4	.740	1.023	.427
	Within Groups	10.842	15	.723		
	Total	13.800	19			
Q4	Between Groups	1.458	4	.365	.381	.819
	Within Groups	14.342	15	.956		
	Total	15.800	19			
Q5	Between Groups	4.825	4	1.206	1.373	.290
	Within Groups	13.175	15	.878		
	Total	18.000	19			
Q6	Between Groups	2.833	4	.708	.740	.580
	Within Groups	14.367	15	.958		
	Total	17.200	19			
Q7	Between Groups	4.108	4	1.027	1.200	.351
	Within Groups	12.842	15	.856		
	Total	16.950	19			
Q8	Between Groups	3.358	4	.840	1.280	.322
	Within Groups	9.842	15	.656		
	Total	13.200	19			
Q9	Between Groups	1.783	4	.446	.441	.777
	Within Groups	15.167	15	1.011		
	Total	16.950	19			
Q10	Between Groups	3.308	4	.827	1.104	.391
	Within Groups	11.242	15	.749		
	Total	14.550	19			
Q11	Between Groups	1.375	4	.344	.996	.440
	Within Groups	5.175	15	.345		

Table 4.8 Continued

		Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Q12	Total	6.550	19			
	Between Groups	3.383	4	.846	1.026	.426
	Within Groups	12.367	15	.824		
Q13	Total	15.750	19			
	Between Groups	5.108	4	1.277	.965	.455
	Within Groups	19.842	15	1.323		
	Total	24.950	19			

There were no significant differences in mean responses based on age ($p > .05$).

Teaching Experience. Regarding teaching experience, ANOVA revealed no significant mean differences in response to the question items ($p > .05$). Table 4.9 depicts this information.

Table 4.9

ANOVA by Teaching Experience

		Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
Q1	Between Groups	.358	3	.119	.263	.851
	Within Groups	6.800	15	.453		
	Total	7.158	18			
Q2	Between Groups	6.576	3	2.192	1.267	.321
	Within Groups	25.950	15	1.730		
	Total	32.526	18			
Q3	Between Groups	3.747	3	1.249	2.037	.152
	Within Groups	9.200	15	.613		
	Total	12.947	18			
Q4	Between Groups	1.351	3	.450	.468	.709
	Within Groups	14.439	15	.963		
	Total	15.789	18			
Q5	Between Groups	1.800	3	.600	.556	.652
	Within Groups	16.200	15	1.080		
	Total	18.000	18			
Q6	Between Groups	2.136	3	.712	.711	.560
	Within Groups	15.022	15	1.001		
	Total	17.158	18			
Q7	Between Groups	.197	3	.066	.059	.981
	Within Groups	16.750	15	1.117		
	Total	16.947	18			
Q8	Between Groups	1.726	3	.575	.799	.513
	Within Groups	10.800	15	.720		

Table 4.9 Continued

		Sum of Squares	df	Mean Square	<i>F</i>	<i>p</i>
	Total	12.526	18			
Q9	Between Groups	4.101	3	1.367	1.754	.199
	Within Groups	11.689	15	.779		
	Total	15.789	18			
Q10	Between Groups	2.239	3	.746	.969	.433
	Within Groups	11.550	15	.770		
	Total	13.789	18			
Q11	Between Groups	1.421	3	.474	1.391	.284
	Within Groups	5.106	15	.340		
	Total	6.526	18			
Q12	Between Groups	2.845	3	.948	1.108	.377
	Within Groups	12.839	15	.856		
	Total	15.684	18			
Q13	Between Groups	1.839	3	.613	.419	.742
	Within Groups	21.950	15	1.463		
	Total	23.789	18			

Divisions. Multiple comparisons revealed that those participants that were in the elementary division were in agreement more so than middle school or high school ($p < .05$).

Table 4.10 details a summary of Three-Way ANOVA and questionnaire scores for Likert items 1-13 by division.

Table 4.10

ANOVA by Division

		Sum of Squares	df	Mean Square	<i>F</i>	<i>Sig.</i>
Q1	Between Groups	.300	2	.150	.370	.696
	Within Groups	6.900	17	.406		
	Total	7.200	19			
Q2	Between Groups	5.100	2	2.550	1.543	.242
	Within Groups	28.100	17	1.653		
	Total	33.200	19			
Q3	Between Groups	4.900	2	2.450	4.680	.024
	Within Groups	8.900	17	.524		
	Total		19			
Q4	Between Groups	3.800	x	1.900	2.692	.096
	Within Groups	12.000	17	.706		

Table 4. 10 Continued

		Sum of Squares	df	Mean Square	F	Sig.
	Total	15.800	19			
Q5	Between Groups	1.100	2	.550	.553	.585
	Within Groups	16.900	17	.994		
	Total	18.000	19			
Q6	Between Groups	1.600	2	.800	.872	.436
	Within Groups	15.600	17	.918		
	Total	17.200	19			
Q7	Between Groups	1.350	2	.675	.736	.494
	Within Groups	15.600	17	.918		
	Total	16.950	19			
Q8	Between Groups	5.100	2	2.550	5.352	.016
	Within Groups	8.100	17	.476		
	Total	13.200	19			
Q9	Between Groups	6.450	2	3.225	5.221	.017
	Within Groups	10.500	17	.618		
	Total	16.950	19			
Q10	Between Groups	6.850	2	3.425	7.562	.004
	Within Groups	7.700	17	.453		
	Total	14.550	19			
Q11	Between Groups	1.650	2	.825	2.862	.085
	Within Groups	4.900	17	.288		
	Total	6.550	19			
Q12	Between Groups	1.350	2	.675	.797	.467
	Within Groups	14.400	17	.847		
	Total	15.750	19			
Q13	Between Groups	5.650	2	2.825	2.488	.113
	Within Groups	19.300	17	1.135		
	Total	24.950	19			

Additionally, there was a significant difference in responses to question 9 between Middle school ($M = 2.80$, $SD = 1.30$) and Elementary school ($M = 1.20$, $SD = 0.44$) divisions. Those in the Middle school division scored higher on average in response to Q9 which stated “New Teacher Academy and induction programs prepared me to deliver asynchronous lessons

through a Learning Management system.” As well as a significant difference in response to item 10 between Middle school ($M = 2.80$, $SD = 0.84$) and Elementary school ($M = 1.20$, $SD = 0.45$) divisions. Those in the Middle school division scored higher on average in response to Q10 which stated “The New Teacher Academy and induction programs prepared me to teach synchronous lessons through a video conferencing tool.” Elementary school divisions consistently scored lower to items 3, 8, 9, and 10 ($M = 1.20$, $SD = 0.45$) compared with middle or High school divisions. The mean difference by division for items 3, 8, 9, and 10 are detailed in Table 4.11.

Table 4.11

Division Mean Differences

Division		<i>M</i>	<i>SD</i>
Elementary	Item 3	1.20	.45
	Item 8	1.20	.45
	Item 9	1.20	.45
	Item 10	1.20	.45
Middle	Item 3	2.60	.89
	Item 8	2.60	.89
	Item 9	2.80	1.30
	Item 10	2.80	.84
High School	Item 3	1.90	.74
	Item 8	1.70	.67
	Item 9	2.10	.57
	Item 10	1.70	.67

Note. Level of agreement: 1.00 = strongly agree

To find significant differences, further comparisons were made using a Tukey HSD.

Results are depicted in table 4.12.

Table 4. 12*Multiple Comparisons by Division*

Tukey HSD

Dependent Variable	(I) Division	(J) Division	Mean Difference (I-J)	Std. Error	Sig.
Q3	Elementary	Middle	-1.40*	.46	.018
		High School	-.70	.40	.211
	Middle	Elementary	1.40*	.46	.018
		High School	.70	.40	.211
	High School	Elementary	.70	.40	.211
		Middle	-.70	.40	.211
Q8	Elementary	Middle	-1.40*	.44	.014
		High School	-.50	.38	.402
	Middle	Elementary	1.40*	.44	.014
		High School	.90	.38	.071
	High School	Elementary	.50	.38	.402
		Middle	-.90	.38	.071
Q9	Elementary	Middle	-1.60*	.50	.013
		High School	-.90	.43	.122
	Middle	Elementary	1.60*	.50	.013
		High School	.70	.43	.262
	High School	Elementary	.90	.43	.122
		Middle	-.70	.43	.262
Q10	Elementary	Middle	-1.60*	.43	.004
		High School	-.50	.37	.385
	Middle	Elementary	1.60*	.43	.004
		High School	1.10*	.37	.022
	High School	Elementary	.50	.37	.385
		Middle	-1.10*	.37	.022

*. The mean difference is significant at the 0.05 level.

In order to compare the results of the ANOVA tests treating the dependent variables as intervals with treating the responses as categorical, Chi-square tests of association were conducted. Chi-square tests of association are used to measure the association between two nominal variables. In this case, the two variables are division (Elementary, Middle, or High school) and the response of the item “New Teacher Academy and induction programs prepared

me to deliver asynchronous lessons through a Learning Management” ranging from Strongly Agree to Strongly Disagree. Participants from the elementary division were in the most agreement with the statement. The division breakdown of responses for item 9 is depicted in Table 4.13.

Table 4.13

Divisions by Item 9

		New Teacher Academy and induction programs prepared me to deliver asynchronous lessons through a Learning Management system					Total
		SA	A	N	D	SD	
Division	Elementary	4	1	0	0	0	5
	Middle	0	3	1	0	1	5
	High School	1	7	2	0	0	10
Total		5	11	3	0	1	20

Results were similar to ANOVA in that only division was significantly related with item 9. Table 4.14 provides this information.

Table 4.14

Chi-Square Tests

	Value	<i>df</i>	<i>p</i>
Pearson Chi-Square	13.745	6	.033
Likelihood Ratio	13.846	6	.031
N of Valid Cases	20		

Phase 2: Qualitative Analysis

After collecting and analyzing quantitative data, qualitative data was also collected. Three open-ended questions were included at the end of the questionnaire to help understand questionnaire responses and discover common themes that could be used to generate follow-up questions for the focus groups. According to Creswell (2008), open-ended responses encourage participants to share their unconstrained opinions. The questionnaire data, open-ended responses, and focus group data were analyzed in hopes of generating a well-defined representation of the participants' perceptions regarding the impact the Induction program had on their ability to teach online.

Qualitative Results

This section is a presentation of the qualitative results in this study. The first subsection is a description of the data collected, and the second subsection is a description of the execution of the planned data analysis procedure described in Chapter III. In the third subsection, the qualitative results are presented. The fourth subsection is a summary of the qualitative results, organized by research questions.

Qualitative Data Collection

The questionnaire data and open-ended responses were analyzed and served as a starting point for focus group questions. The three open-ended questions posed to participants at the end of the questionnaire were designed to elicit responses that focused on why they became cyber charter teachers, what skills they feel are critical to successful online teaching and how participants were prepared or prepared themselves to instruct online and.

Open-ended item #1 asked participants to share the determining factors that influenced your decision to teach online. It was included to assess their motivation in becoming a cyber

charter teacher. All twenty participants responded to the question. No participants shared that it was a last resort option. The majority of responses related to participants' desire to utilize technology frequently and to gain experience in a new and evolving field of education.

Responses to open-ended item #1 can be found in Table 4.15.

Table 4. 15

Responses to Open-Ended Item #1

Responses to Open-Ended Item #1	Sample of Responses
Technology Use	<ul style="list-style-type: none"> • I enjoy using technology and I think our students learn best when technology is utilized effectively. • I was excited to teach in a learning environment that promotes technology. • I wanted to gain online teaching skills because I believe all teachers need to possess those skills • I wanted to experience teaching in the latest educational offering for students.
Environment as a whole	<ul style="list-style-type: none"> • I wanted to explore a new teaching environment especially one that will be expanded in the future. • Exciting opportunity to teach in a new environment • I wanted to experience teaching in the latest educational experience offered for students • I think that this will become much more the future of education moving forward, and I wanted to challenge myself as an educator. • wanted to explore a new teaching environment especially one that will be expanded in the future.

Open-ended item #2 was included because I felt it necessary to incorporate a question directed at online instructional skills. I thought this would help evaluate the induction program's topic areas and highlight any potential gaps in the program. Responses fell into three categories:

time management skills, interpersonal skills, and technology skills. The responses are included in table 4.16.

Table 4.16

Responses to Open-Ended Item #2

Responses to Open-Ended Item #2	Sample of Responses
Time management and organization	<ul style="list-style-type: none"> • Organized • Trial and Error, Focusing on Learning Outcomes and not tools • Time management • flexibility, willingness to try new things and search for answers, problem solving, ability to reflect and make changes.
Interpersonal/ Communication Skills	<ul style="list-style-type: none"> • enthusiastic, caring, understanding, and supportive. Since online educators do not interact with students all day as they would in a brick-and-mortar setting, they must go above and beyond in presenting these qualities when interacting online. • Strong communication skills • Engaging, organized, knowledgeable about content and resources, good communication skills, willingness to grow/learn as an educator, flexibility
Technology Related Skills	<ul style="list-style-type: none"> • Technology use, LMS navigation, Instructional Design, Engaging students asynchronously and synchronously • LMS knowledge, Collaboration and Creativity as well as instructional design • Technology knowledge, Instructional Design

Open-Ended item #3 asked participants describe how they were prepared or how they prepared themselves to instruct students online. The majority of responses, 17 out of 20, mentioned the induction program specifically in how they were prepared to teach online. Table 4.17 includes the responses for this question on the questionnaire.

Table 4.17*Responses to Open-Ended Item #3*

Responses to Open-Ended Item #3	Sample of Responses
Responses Mentioning Induction Program	<ul style="list-style-type: none"> • I lacked knowledge on using the special LMS. I did a lot of playing around in the CAMP Course to try things and test them out. I did lots of reading and searching for tools that best suited my teaching style and needs. I think Induction was helpful in developing a baseline for all of these things, I just used my curiosity to explore more and develop the lesson packages to the best of my ability. • Preparing for the school year included the New Teacher Academy as well as talking with other members of my grade level team. Everyone has been extremely helpful and supportive as I continue to expand upon my online instructor skills. • I attended New Teacher Academy and completed Induction, and I also spent time working with the various tools and platforms. • I went through the Induction and have a great mentor who showed me how to be a good online teacher. • I went through the New Teacher Academy and Induction. I learned new tools, and I think this helped me understand how to teach online better. It was also helpful to look at a variety of examples from other teachers. It was also helpful to meet with veteran teachers to ask questions and get tutorials. Lastly, I followed online teachers on social media, which also provided me with new ideas to try. • NTA, Induction session and mentoring as well as my own research into online teaching through MOOCS. • New teacher academy really set the tone for how to teach online- Being able to experience online learning as a student asynchronous and synchronous. • Through NTA and Induction as well as my own research into the field.
Responses Including other resources/ strategies	<ul style="list-style-type: none"> • Reading and testing out various tools • Exploring different apps on my own • I went to a cyber-school. I knew the ins-and-outs

Focus Group Interview

Based on the goals of the study, I created focus group questions before the data collection phase. After analyzing survey data to check for themes that might not be addressed in the

interview, I added a question to the focus group protocol designed to gather more specific data regarding induction preparing participants for asynchronous lesson design and synchronous lesson delivery. After finalizing the interview protocol, one focus group was conducted using a semi-structured format based on a researcher-developed protocol. In compliance with social-distancing guidelines associated with COVID-19 mitigation, the focus group was conducted online, via the video conference application Zoom. The focus group was approximately 45 minutes in duration, and it was audio recorded using Zoom’s integrated audio-recording feature. The focus group audio recording was transcribed verbatim into a single-spaced Microsoft Word document. The focus group participants were five Cyber Charter School teachers who recently completed their first year of the induction program. These participants/teachers volunteered to participate in the focus group by responding to my recruitment statement at the end of the questionnaire. Table 4.18 indicates relevant demographic information for the five participants.

Table 4.18

Focus Group Participant Demographics

Participant	Education	Specialization	Teaching experience in traditional settings	Duration of experience (years)
A1	Master’s	Secondary Language Arts and Social	Public and private high schools	7
A2	Master’s	Science and	Public middle schools	7
A3	Bachelor’s	Elementary Special	Public school	1
A4	Bachelor’s	English	Charter high school	9
A5	Bachelor’s	Health and PE	Charter and private	2

Journal Responses

In addition to their focus group responses, the five focus group participants provided data in the form of open-ended journal entries in which they responded to six reflection prompts. The five participants provided one journal entry response approximately one paragraph in length per week for six weeks, making a total of 30 journal responses across all participants. The journal responses from across the six weeks were compiled and saved as one Microsoft Word document per participant.

Qualitative Data Analysis for the Focus Group and Journal Reflections

The focus group transcript was verified by the researcher and by the participants through member checking. Participants were emailed the focus group transcript which included the specific narratives they shared during the session, and they verified the transcript for accuracy (Creswell, 2009). Using the constant comparative method was used in this study to make sense of the data collected from the interview and journal entry data. The coding of the data was done as an inductive process which developed codes unique to this study. The codes were formulated to summarize participant responses that identify features of a successful cyber charter induction program and to answer the research questions of this study (Glaser, 1965). The analysis of themes involved grouping information from the data to form common categories that can then be interpreted as the main ideas or themes across all of the collected data (Creswell, 2013). To generate the themes, the verified focus group transcript and journal entries were imported into NVivo 12 computer-assisted qualitative data analysis software for analysis using theme nodes. I used the NVivo software to organize and code transcriptions of interviews and journals (see Appendix H). Using NVivo, I analyzed the data gathered and identified the themes that emerged from that analysis.

Theme nodes are codes that represent the themes or topics that I found in my data. Since the research literature was limited on cyber charter induction programs, the first step of the analysis consisted of inductive and initial coding. To find the initial codes, I read and reread the journal and focus group data. I assigned relevant excerpts to NVivo nodes, which were labeled with brief, descriptive phrases to indicate the meaning of their contents. The nodes represented initial codes. When different data excerpts from the focus group and journal entries expressed similar meanings, they were assigned to the same node. I used the NVivo software in order to organize and code transcriptions of interviews and journals (Appendix H). Using NVivo, I analyzed the data collected and identified the themes that emerged from that analysis.

For example, in a focus group response, A2 stated in the focus group: “My mentor was my content grade level partner. And I think that was so beneficial because . . . every question that I have can be answered directly by her because she's doing exactly what I'm doing.” This comment was coded as the same subject peers and mentors because A2 was describing how their same subject mentor provided valuable insight and support for preparation for asynchronous lesson development. A1 stated in the focus group, “My mentor has been a fantastic piece, in that I was able to go in and see her course, and so having that access to someone's actual life course made everything click for me.” A1’s reference to a same-subject mentor whose course served as an example of lesson development for A1 to observe and follow. A1 expressed a similar meaning to A2’s statement, in that both participants were referring to the efficacy of mentoring by a more experienced teacher in their subject in preparing them to develop lessons. The responses from A1 and A2 were therefore assigned to the same node in this step of the data analysis. Because the participants expressed confidence in their ability to develop lessons and attributed this confidence partly to the mentorship they received from same-subject teachers, the node was

labeled: same-subject peers and mentors increase teacher confidence in lesson development.

Table 4.19 indicates the initial codes identified during this step of the analysis.

Table 4.19

Initial Codes

Code	n of focus group excerpts included	n of journal excerpts included	total n of excerpts included
Allow more time to explore		3	3
Confident developing asynchronous	1	4	5
Drawing on prior knowledge	2		2
Camp courses (sandbox)	5	1	6
Expert demonstrations	2	3	5
Preparation is practical	2	2	4
Same-subject peers and mentors	5	9	14
Supportive school staff	3	2	5
Supportive teacher peers	5	6	11
Access to Exemplary Courses	3	6	9
Confident in their preparation	5	7	12
User-friendly tools	1	4	5
Online Student Engagement Strategies	2	3	5

The second step of the analysis involved focused coding. During this step, initial codes were combined to form overarching themes representing comprehensive patterns in the data. Initial

codes were grouped when they converged on a similar idea relevant to addressing a research question. For example, the responses from A1 and A2 quoted previously were assigned to the initial code: same-subject mentors increase teacher confidence in lesson development. A related code formed during initial coding was: *expert demonstrations contributed to lesson development proficiency*. The two initial codes were assigned to the same theme during focused coding. Both codes indicated positive influences of instruction and guidance from more experienced individuals (i.e., experts and more experienced, same-subject mentors) on participants' ability to develop asynchronous lessons.

Two other initial codes, *confident in ability to develop lessons* and *drawing on peer knowledge*, were also identified as related and assigned to the same focused theme. The theme was labeled: *Same-subject peer collaboration, Access to Exemplary Courses & Mentors contribute to effective lesson development preparation*. After focused coding was conducted for the focus group data, the journal entries were coded into the initial and focused codes that were developed for the focus group. For example, A4 wrote in a journal entry:

I find the mentor portion of the induction process extremely helpful. I enjoy meeting with my mentor and discussing questions I may have or discussing situations that I may need advice on. It is also nice to have someone observe my virtual lessons to get more feedback. I also meet with another new teacher who has the same mentor, so it is nice to provide support to each other.

Like the focus group responses from A1 and A2 quoted previously, A4's journal entry referred to the efficacy of mentorship as preparation for course development. A4's journal entry was therefore assigned to the same node as A1's and A2's previously quoted responses. Table 4.20

indicates how the initial codes identified in the focus group and journal data were grouped to form the focused codes or themes.

Table 4.20

Grouping of Initial Codes to Form Themes

Theme Code clustered to form theme	n of focus group excerpts	n of journal excerpts	Total n of excerpts
Theme 1. The practical focus of the induction program effectively prepares and builds confidence in new teachers. Allow more time to explore Preparation is practical Confident in their preparation	7	12	19
Theme 2. Same-subject peer collaboration, Access to Exemplary Courses & Mentors contribute to effective lesson development preparation Confident in ability to develop lessons Drawing on prior knowledge Sandbox Courses Expert demonstrations Same-subject PLCs and Mentors Access to Exemplary Courses	18	23	41
Theme 3. Ongoing peer/ staff support contribute and Student Engagement Discussions contribute to effective synchronous lesson delivery preparation Supportive school staff User-friendly tools Supportive teacher peers Online Student Engagement Strategies	10	15	25

When an initial code relevant to addressing a research question was identified for the first time in the journal data, a new initial code was created for it. For example, A2 wrote in a journal entry: “My preference would have been to get a list of tech tools teachers use and give some time to explore them.” A2 was indicating that the effectiveness of practical demonstrations of the technology might be further enhanced if new teachers were given more time to explore the tools on their own time and return with questions. This idea did not appear in the focus group responses, so no initial or focused code developed from the focus group data would have been an appropriate category for it. A new code labeled ‘allow more time to explore’ was created for this response and for other journal entries that expressed similar meanings.

Qualitative Findings

This presentation of the qualitative findings is organized by research questions. Under the research questions, the findings are organized by theme. The presentation of each theme includes a theme definition and evidence from the data in the form of direct quotes. Exact quotes from the participants, using pseudonyms, help paint a descriptive picture of the participants’ experiences and perceptions as organized by the themes that follow.

RQ1: How Do New Cyber Charter School Teachers Perceive Their Induction Program in Preparing Them to Teach in the Cyber Charter School Environment? One theme emerged during data analysis to address this research question. The theme was: the practical focus of the induction program effectively prepares and builds confidence in new teachers. The following subsection is a discussion of the theme.

Practical Focus of the Induction Program

During the focus group, all five participants reported that the induction program was effective in preparing them to teach in the cyber charter school environment. Participants

commented on the practical nature of the program, and how they perceived that it was effective in building teachers' confidence in their ability to teach using unfamiliar technology. Participant A1 added that focusing on the orientation module during NTA was less daunting than thinking about developing an entire course from day one. A3 elaborated on the practical nature of the induction program stating that the "step-by-step demonstrations of how we would be using technology and resources in our courses and virtual lessons was very helpful."

Overall Program Efficacy. During the focus group interview, all five participants described the induction program as effective in preparing them to teach in the cyber charter school environment. In a focus group response, A1 stated of the program's efficacy, "If there had not been the new teacher induction, and it had just been, "You're part of [the school]. This is [the school's] mission statement,' and you had to figure it out, I don't think I would have been nearly as prepared." A3 also added more generally in the same response, "I felt way more prepared in the two, three weeks that I went through here [the induction program]." A2 described the teacher induction program as effective in assisting brick-and-mortar teachers in adapting to the online teaching environment: "New teacher induction was super helpful in building the confidence you needed because you could be the greatest brick-and-mortar teacher, but that doesn't mean you're going to be successful in a virtual setting" (focus group). A2 also shared in a journal entry that

Being new to the online teaching realm, I was very nervous about figuring it all out and what it would take, but even after the first day of Induction, I was put at ease. Although induction is a formal process, I feel like the entire school has been part of my induction, because everyone has been super helpful and supportive.

Practical Experiences. In both the focus group and journal entries, participants also perceived that the practical nature of the step-by-step demonstrations in the induction program

enabled them to develop a robust understanding of the technology, thereby enhancing their preparation and confidence. In response to a focus group question asking for participants' overall impression of induction, A4 described the preparation offered as comprehensive and practical enough to put new teachers on a similar footing with respect to the technology as veteran instructors: "By the end of the week of New Teacher Academy, I felt prepared to seamlessly transition into my role as a teacher. I feel like it provided me with the necessary information I needed to be on the same page as the veteran online teachers."

In a journal entry, A2 also referred to the practical nature of the instructional demonstrations in the program as providing new teachers with an orienting preview of the specific LMS they would be using: "What I seem to have found beneficial was the going-over of the platform [the school] uses and how it is navigated by teachers and then by students." A1 wrote in a journal entry that the induction program contributed to practical preparation for using online teaching tools:

The information was organized and available for us to use. I enjoyed the seminars! I thought they were beneficial and gave me insight as well as the tools and resources I needed to teach in the online environment. There was Clear information provided regarding how the tools support the learning objectives and was more than technology training. It was emphasized that tools are not used simply for their own sake.

A4 wrote "The new teacher induction was incredibly helpful to me. While there was certainly A LOT of information presented, I find that I learn things rather quickly, and I feel that I was really well prepared to jump into online teaching, in terms of technology usage."

Demonstrations and self-exploration. Two out of five participants indicated that the effectiveness of practical demonstrations of the technology might be further enhanced if new

teachers were given more time to explore the tools on their own time and return with questions. These participants' responses were relevant to this theme because they suggested that practical demonstrations in the induction program were effective, but that they might be more so with a more hands-on, active learning component. A2 wrote in a journal entry, "My preference would have been to get a list of tech tools teachers use and given some time to explore them, and then possibly come back with breakout rooms where you could go to get questions answered." A4 wrote in a journal response similar to A2's, "One area that can be improved upon is allowing new teachers to have more independent work time. I know I personally learn more when I start exploring and try to create lessons and materials for my class."

RQ2: What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment? One theme emerged during data analysis to address this question. The theme was: same-subject peer, mentor support and Sandbox Courses contribute to effective lesson development preparation. The following subsection is a discussion of this theme.

Same-Subject Peer and Mentor Support and Camp/ Sandbox Courses

Participants indicated that the induction program was effective in preparing them to develop lessons for a cyber-environment. Same-subject mentors who could provide practical ideas and guidance were described as effective in answering questions and providing feedback about lesson development. The availability of same-subject peer groups with whom new teachers were able to exchange ideas and insights also contributed to participants' preparation for lesson development.

Importance of Modeling. All five participants described the induction program as effective in preparing them to develop lessons for a cyber-environment in their journal entries.

A3 wrote in a journal response that the practice lessons in content research and creation were effective: “The assignments for the seminar where we were encouraged to research, create, and share content within and across disciplines was the most beneficial.” A4 wrote in a journal response that lesson development preparation was the area in which the induction program was most effective: “The part I found most beneficial is when we went over the requirements/examples for designing lesson packages for asynchronous instruction. This helped me get ideas on how to build my lessons in an organized and engaging way.”

Supportive Environment through Mentor and Veteran Teacher Support. During the focus group, A2 spoke of the benefits of having induction program instructors who were experienced teachers themselves, describing it as effective in helping new teachers learn how to develop lessons for the cyber-environment:

Having those people to help and support, I love that you have those tech coaches that are actually teachers where they're actually utilizing those tools and using them. So it's not just someone that is brought in from that actual tool [e.g., a representative of the application developer] that's sitting here telling us how to use it. And you're like, okay. But really, as a teacher, how does that work? And so to have that relatability where they specifically share how this is I would use it in math for example, or this is how I would use it in science. (Focus group)

A3 expanded upon A2’s response by sharing how working with peers contributed to preparation for lesson development, stating, “In first grade, we each plan a subject for the week, and then we kind of edit and proof each other's work.” A3 also mentioned the effectiveness of having a same-subject mentor: “My mentor is another first-grade teacher. I think that's really been beneficial for me because . . . if I'm working on something during the day, and I just have a question . . . she'll

respond right back” (focus group). In a focus group response, A2 also described mentorship under a same-subject teacher as valuable preparation for asynchronous lesson development: “My mentor was my content grade level partner. And I think that was so beneficial because . . . every question that I have can be answered directly by her because she's doing exactly what I'm doing.” A1 spoke in the focus group of receiving examples of lesson designs from a same-subject mentor: “My mentor has been a fantastic piece in that I was able to go in and see her course, and so having that access to someone's actual course made everything click for me.” A4 wrote in a journal entry of how the peer-support and mentorship components of the induction program were complementary, with new teachers receiving support from a same-subject mentor and that mentors’ other same-subject mentees:

I find the mentor portion of the induction process extremely helpful. I enjoyed meeting with my mentor and discussing questions I may have or discussing situations that I may need advice on. It is also nice to have someone observe my virtual lessons to get more feedback. I also meet with another new teacher who has the same mentor, so it is nice to provide support to each other.

In a journal entry, A1 also cited the effectiveness of the peer-support component of the program in preparing new teachers for lesson development. A1 spoke of a professional learning community (PLC) as helping new teachers prepare by allowing them to exchange ideas with one another and with more experienced online instructors: “Meeting in the PLC that I'm in, I was able to speak with the same content and grade-level teachers and sometimes they taught the same course. So that's really helpful, to see what they're doing” (focus group). A2 wrote in a journal response of how supportive peers and coaches contributed to preparation by enabling new teachers to seek input and support from knowledgeable colleagues: “I also like that all teachers

and specifically the tech coaches are super helpful, supportive, and open to questions. This allowed me to get support from teachers who are working within the same platform as I am.”

Exposure to LMS. During the focus group interview, participants were asked how well New Teacher Induction familiarizes them with your learning management system. A2 described the program as effective specifically in preparing teachers to use the Canvas (LMS): “With the new teacher academy and induction, being able to go through Canvas was helpful because I never even heard of Canvas prior to coming” (focus group). Participant 3 stated:

I didn't have any prior experience with learning management systems (LMS) or anything prior to coming to [the school]. With Induction, being able to go through Canvas for learning modules as a student was helpful because it gave me that student experience, and it also modeled effective instructional design practices. It was a nice introduction to the tool, Canvas. I liked the way that during the new teacher Academy, we had our own “camp courses” or sandbox course that no students are enrolled in. After completing induction, I still use my camp course from time to time to test new online strategies and tools.

Sandbox Practice Course. During the focus group interview, all five participants specifically mentioned the Camp Course/ demo course as an effective method in applying the skills they learned in a less pressured environment. Three of the five participants also shared that having access to exemplary courses improved their online course design in both the focus group and their journal entries. They felt like future new teachers would benefit from access to even more of these courses.

RQ3: What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in

a cyber-environment? One theme emerged during data analysis to answer this research question. The theme was: ongoing peer and staff support contribute to effective lesson delivery preparation. The following subsection is a discussion of this theme.

Ongoing Peer and Staff Support and Group Discussions of Online Engagement Strategies

Participants stated that the induction program was effective in preparing them to deliver lessons in the cyber-environment. The ongoing support of same-subject peers and staff was cited as one way in which the program contributed to new teachers' preparation. Supportive staff and peers who would respond promptly to questions about lesson delivery as those questions arose were particularly valuable to new teachers.

Frequent Check-ins. Participants described check-ins with and feedback from other teachers in the same subject as valuable in preparing them to deliver lessons in the cyber-environment. A3 said of conferring with colleagues, "It's really nice to be able to communicate as a team on a weekly basis to make sure we're all on track with things." A3 said specifically of the ability to receive feedback and collaborate with peers, mentors, and staff: "As a new first-year teacher, being able to have someone proof and check what I had, that was really helpful." A2 described the supportive peer network in the program as facilitating an exchange of ideas among teachers about course delivery: "We all shared our courses with each other. And so we all go in and learn. 'I'm like, Oh, look at that really cool thing [teacher] is doing here. Look at this really engaging strategy that this teacher is utilizing.'" A5 wrote of the effectiveness of peer collaboration in a journal entry, "It was great having the opportunity to collaborate with colleagues who were just starting out like me. It seemed like we learned important things to know about the virtual environment." A2 added in a journal response that induction program

forums for seeing practical demonstrations and exchanging ideas with same-subject teachers prepared them to deliver lessons with effective incorporation of technology:

One of the resources that I have utilized and loved at the Tech Tuesdays. I love this because it has always included teachers, which has shown how certain tech tools are being utilized in virtual lessons. This has allowed me to make connections and see these tools in action. The quick sessions have given me the opportunity to see how I can better my course and have given me new ideas on how I can use certain tools in my synchronous lessons with students.

During the focus group interview, participants also spoke of the accessibility and responsiveness of staff as contributing to their preparation to deliver lessons online. The responsiveness of mentors and staff was important because it enabled new teachers to ask questions about lesson delivery as those questions came up and received an answer quickly. A2 wrote in a journal entry of the responsiveness of induction program staff, “All of the staff were super welcoming and open/willing to help, answer questions, and assist in any way possible.” A1 reported feeling more confident in their preparation to deliver lessons because “Everyone answers emails promptly and is ready to help. And you never feel like you're putting anyone out.” In a focus group response, A3 said of the accessibility of their mentor to provide support for lesson delivery, “We use the messenger a lot. If I'm working on something during the day and I just have a question, I can pop on and send a message and she'll respond right back, which is really nice and convenient.”

Access to Educational Technology tools. During the focus group interview participants also shared that they appreciated the technology cheat sheets created for induction. A5 specifically stated that “they were an easy reference to utilize when using the technology tools

such as Zoom or Nearpod when preparing for synchronous virtual lessons.” Four participants also shared how the tools utilized during the induction process were very user-friendly in their journal entries. A4 wrote of the user-friendliness and versatility of the technological instructional tools as contributing to the effectiveness of new teacher preparation to deliver lessons. In a journal entry, A3 wrote of one tool, “It was so simple to use the PearDeck add-on. I find the resource to be user-friendly for the teacher and students. Also, there are so many options to make the live lessons engaging for students.” Of the usefulness of another technological tool for lesson delivery, A2 wrote, “Padlet has also been very helpful during my virtual lessons when I am asking students to collaborate with one another.” A1 shared that “I feel most confident with my ability to be flexible and try new things. The tech tools are always changing, so being able to be flexible, or just the willingness to try new things has suited me well.”

Online Student Engagement Strategies. Overall, each participant commented that they valued induction activities where they shared some of the face-to-face strategies they have used and discussed how they can be adapted for synchronous virtual lessons. A5 wrote in a journal entry:

One of my favorite induction cohort discussions focused on Virtual Lessons. It was after the first day of New Teacher Academy and we submitted a FlipGrid assignment on an icebreaker activity we had used in the classroom. The next day we worked in groups and were challenged to adjust the lesson for the virtual classroom. We had important conversations regarding how not all instructional practices transfer over to an online environment. You can't just replicate what you did with students when you were right in front of them. Synchronous lessons are a time you can use some of your problem-based practices and collaborative group work exercises while asynchronous are more

conducive to direct instruction that students can view at their own pace. It was a very eye opening exercise.

All five participants shared that induction introduced them to synchronous virtual lesson strategies, but they felt that content specific examples and support would have strengthened their understanding as they started their online teaching career. A1 wrote in a journal entry “during induction I learned about the technology functions of Zoom and general synchronous teaching strategies like utilizing breakout rooms for small group discussions, but seeing a virtual lesson for my specific content area and how the teacher leveraged breakouts for English for example would have helped me generate more ideas earlier on.” Participant A2 shared that “grade level specific collaborative experiences would have contributed to her development as an online science teacher.” A3 also suggested that “by inviting veteran teachers from across all content areas to participate in the group work would motivate and provide reassurance for their own online teaching skills.” Hearing from veteran peers could make a difference in what new cyber charter teachers think they can and cannot do, and provide new teachers with reassurance.

Qualitative Findings Summary

Three research questions were used to guide this study. The first research question was: How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment? The theme that emerged to answer this question indicated that the practical focus of the induction program effectively prepares and builds confidence in new teachers. The practical nature of the program was effective in building teachers’ confidence in their ability to teach using technology that was sometimes unfamiliar, participants stated. Participants identified the practical nature of the induction program with its

focus on step-by-step demonstrations of how teachers would be using technology and resources in their classes.

The second research question was: What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment? The theme used to address this question indicated that same-subject peer and mentor support contribute to effective lesson development. Same-subject mentors who could provide practical ideas and guidance were described as effective in answering questions and providing feedback about lesson development. The availability of same-subject peer groups with whom new teachers were able to exchange ideas and insights also contributed to participants' preparation for lesson development.

The third research question was: What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment? The theme used to address this question indicated that ongoing peer and staff support contributes to effective lesson delivery preparation. The ongoing support of same-subject peers and staff was cited as one way in which the program contributed to new teachers' preparation. Supportive staff and peers who would respond promptly to questions about lesson delivery as those questions arose were particularly valuable to new teachers.

Summary

This chapter detailed salient results pertaining to perceptions teachers had of their induction program. Overall, participants in the questionnaire, focus group, and journal entries found the induction program at The Cyber Charter School to be effective in preparing them for

online teaching. The following chapter provides further discussion of findings and interpretations of results, as well as implications for practical applications and future research.

Chapter 5: Discussion

The purpose of this mixed methods research study was to investigate how new teachers perceive the effectiveness of an induction program at the CCS that prepared them for online instruction. The significance of this particular study is based on the following factors that include the need to increase training of new teachers on online instruction and the limitations of traditional teacher induction programs. According to Trust (2017), an educator's role in the 21st century is evolving rapidly to meet the demands of the “new” digital classroom. The dynamism that characterizes the online education sector has caught many teachers unprepared to meet the demands of students and provide them with quality education. As Foulger et al. (2017) posited, for decades now, teachers have been ill-prepared to teach with technology, let alone effectively meet students’ needs in the online environment.

Currently, there is a continual shift nationally to recognize online education as a worthwhile alternative for students and their families. However, recent data shows that Pennsylvania lacks the urgency to accept the need for online education policies. Archambault and Kennedy (2014) opine that there is no established inclusion of digital pedagogy into preservice teacher education curricula and field placement experiences in many universities. Moreover, preservice teachers who have completed a preparation program that included course development techniques, authentic online assessments, and relationship-building strategies have a more extensive understanding of cyber education and a smoother transition into becoming online educators (Zweig & Stafford, 2016).

Researchers have not thoroughly investigated effective induction programs and professional development for K-12 educators learning to design online courses (Shattuck, 2013). Therefore, the problem under investigation in this research study is that while preservice

teaching programs and school district professional development sessions train teachers on online opportunities, they do not sufficiently prepare them for effective online instruction in the K-12 cyber charter environment (Borup & Evmenova, 2019). Due to the lack of inclusion of digital pedagogies, cyber charter schools must have a well-organized and effective induction program to prepare new teachers for online instruction.

Therefore, this chapter will highlight the research questions guiding the study, a summary of the entire study, and how the theoretical framework relates to the findings of the study. The chapter will also present a summary and discussion of the findings, limitations of the study, specifically in methodology, analysis, and generalizability of the findings. Finally, the chapter will discuss the implications of the study for future research and a summary of the chapter.

Summary of the Study

The purpose of this mixed methods research was to explore the components of a new teacher induction program at a single cyber charter school, CCS, and also investigate how new teachers perceived their induction programs. In Phase 1 of this study, I administered a questionnaire with closed and open-ended questions focused on the induction program at CCS and how it prepared teachers for online teaching, specifically the delivery of synchronous lessons and the design of asynchronous lessons. All participants had the opportunity to participate in Phase 2 of the study. Five teachers participated in Phase 2. Each division and the content area was represented, and participants provided rich information to analyze and address the three research questions:

There were three questions guiding the current study:

RQ1. How do new cyber charter school teachers perceive their induction program in preparing them to teach in the cyber charter school environment?

RQ2. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment?

RQ3. What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to assure effectiveness in delivering synchronous lessons in a cyber-environment?

After administering the questionnaire, I conducted a focus group interview and collected journal entries to gather essential data to identify themes aligned to each research question. To mitigate confidentiality concerns, I utilized de-identifiers for participant responses (A1-A5). I also refrained from noting a specific grade level or other easily recognizable data points of any individual. Interview data were analyzed using NVivo software using inductive qualitative analysis. Three key themes emerged from the qualitative data: the practical focus of induction, same-subject peer and mentor support, ongoing peer and staff support. Based on participant responses, I identified the three themes as the induction program's critical components that prepare new teachers for online instruction.

Application of the Theoretical Framework to Findings

According to Tondeur et al. (2019), most reviewed studies agree that online education significantly differs from traditional learning, given that each demands the creation of pedagogies specific to each setting. Therefore, shifting tutors who are used to the traditional mode of teaching will require extra preparation and resources in terms of teacher training. The

current study was guided by two complementary theoretical frameworks that included Technological Pedagogical Content Knowledge and Adult Learning Theory or Andragogy. To recap, TPACK was developed by Mishra and Koehler (2006) following rising concerns from scholars on the need to prepare teachers for the digital era.

Application of TPACK

According to Koehler and Mishra (2015), “the TPACK framework can provide the terminology and structure needed to describe the complex web of relationships that exist when teachers integrate technology into the teaching of the subject matter” (p. 4). Supporting new cyber charter teachers as they develop the understanding and skills to design and deliver online lessons for their students has become a focused goal within cyber charter schools. While induction programs differ at each cyber charter school, the TPACK model provides a framework and a step-by-step roadmap for schools to develop their own induction programs depending on the level and objectives set for new teachers. When evaluating induction programs and how they prepare new educators to instruct in cyber and blended settings, the TPACK model illustrates the transformation of the three integral components required to ensure effective instruction: technological knowledge, pedagogical knowledge, and subject area knowledge. TPACK proved essential to the preparation of the survey questionnaire that was used in collecting quantitative data.

For this particular study, quantitative data aimed to describe the features of an induction program, the quality of the induction program, mentor experience, professional development, and additional supports for designing and delivering online lessons. Given that TPACK focused on technological knowledge and subject knowledge, I was able to establish that most teachers agreed that induction programs were critical in preparing them for the design and delivery of

online lessons. Moreover, the subject specificity of the TPACK framework helped in the development of themes for results in the qualitative phase of the study.

The new cyber charter teachers in this study perceived that they extended their technology skills through various learning opportunities included in the induction program. Teachers who participated in the focus group and journal entry process expressed appreciation for the induction program. Participant A1 shared “it was incredibly helpful to have [school] induction facilitators that included veteran teachers walk us through Canvas and a variety of tools as we worked alongside them.” According to Participant A2, in terms of preparation for technology integration the induction program should allow more time for individual exploration of tools stating:

Spending a long time learning one tool tended to become overwhelming because there were so many to learn and figure out. My preference would have been just to get a list of tech tools that teachers use. We could explore them and then possibly come back with any questions/ breakout rooms where you could go to get questions answered.

It also appeared especially important that induction modeled best online teaching practices and proper utilization of technology to achieve online learning outcomes (Elliott et al., 2015). In addition to improving technology knowledge, induction in a blended format can improve teacher confidence to utilize technology and teach online (Reilly et al., 2012). In this study, participants attributed their perceived improvements to technology use in lessons to their mentor interactions. Participant 4 shared,

I enjoy meeting with my mentor and discussing questions and viewing her example lessons. It was also nice to see how someone in my specific content area uses a technology tool like Nearpod, to check for understanding in a synchronous virtual lesson.

In induction, I created a Nearpod presentation, but to see it used with students helped me start using the tool more effectively.

Additionally, through an analysis of the interview and journal entries, participants most commonly explained that the lesson examples embedded into induction were especially valuable because they “highlighted how to apply new tools and strategies, and I got to experience our tools through a student perspective.” Participant A4 stated,

After being introduced to the online lesson package format, it made more sense seeing it in action in the LMS, or what it would look like from a student view. I thought that was very eye-opening and helped me start planning for asynchronous lesson design. I just wished we could see more lesson-specific information to my content area.

While focus group participants all reported that induction helped prepare them to teach online, they also shared a need for additional support. Participant A5 added that the integration of multiple course examples would be “helpful, especially as a Physical education teacher approaching the online setting. After connecting with my mentor, I saw things in his course that I would have never thought of on my own.” Participants’ journal entries mirrored those statements shared in the focus group interview. Researchers Cviko et al. (2014) showed the potential of teachers who collaboratively designed their lessons to enhance them with technology. A similar approach could be integrated through induction (Walters et al., 2017). An induction program that models high-quality online teaching creates an effective and efficient environment to prepare new teachers to update technology, pedagogy, and content knowledge for online instruction (Gachago et al., 2017; Walters et al., 2017). Based on the findings, it is important to design a program that matches the learning formats, topics, and technological resources available that teachers will use in their specific online roles.

Application of Adult Learning Theory

Another theoretical framework that guided this study was the Adult Learning Theory. The Adult Learning theory was centered on the idea that induction programs positively impacted new teachers' instruction and perceptions. An example of Adult Learning Theory is andragogy. Knowles (1970) defined Andragogy as the art and science of helping adults learn and is key in training new teachers on online instruction. With Andragogy, learning becomes a process of gaining knowledge and expertise (Knowles et al.,2015) and functions as a transformative tool rather than an educational tool. For this particular study, Andragogy will examine adult learning from two perspectives. The first perspective relates to what induction facilitators know about successful practices that could be used to prepare and develop high-quality K-12 cyber charter educators. The second perspective seeks to inform induction administrators on the additional preparations and support new cyber teachers would likely need and receive. Andragogy played a critical role in qualitatively understanding the new teacher' perception of induction programs and how well they were equipped to conduct online instructions.

The principles of andragogy include facilitating (a) the acquisition of content knowledge, (b) critical thinking about the new knowledge, and (c) the application of new knowledge to practical life and work situations (Pew, 2007). Adults have a need for their learning to be applicable, meaningful, and substantial with sufficient support, proper feedback, and continuing follow-up (Daloz, 2012). The benefits of support, feedback, and follow-up were provided in the induction program.

Sufficient Support, Feedback, and Follow-Up

Based on the questionnaire, focus group, and journal data, participants reported that they felt supported through the mentoring component of induction. The questionnaire data showed

that the participants perceived the mentoring component of induction as helpful in preparing them to teach online. Seventy percent of the participants agreed that their mentor provided support to them as a new online teacher. Similarly, the interview and journal entries highlighted that the participants perceived that they were supported by their mentors and by the program facilitators. Participant A4 specifically commented on the feedback and follow-up her mentor provided her through the induction experiencing writing in a journal entry

My mentor supported me in many ways including answering any questions I have, providing guidance in various situations, and showing me how to complete and organize larger tasks. We also met to discuss goals for me to improve as an online teacher. My mentor has been a great support in this as they allowed me to talk with them regarding my strengths and weaknesses to identify focus areas of improvement. She would watch recordings of my virtual lessons to provide invaluable feedback and advice in relation to my goals. I could not have asked a more helpful and supportive mentor.

Participants reported that they felt guided and supported through mentoring by learning best practices, collaborating on lesson plans, and receiving constructive feedback on their teaching by their trained veteran mentors. Research supports these findings. Barbour (2019) shared the importance of veteran online teachers providing guidance on effective practices related to the design, delivery, and support of K-12 online learning to new teachers.

Applicable Learning

Participants also reported that the induction program learning opportunities and exercises were applicable to delivering and designing online lessons. By utilizing sandbox/ camp courses, participants felt like they had some measure of control over their learning. This study's results were consistent with the adult learning concepts of directing one's own learning, preferring

program goals in alignment with personal or professional goals, and preferring practical activities (Cercone, 2008; Merriam, et al., 2007).

Based on the findings of this study, andragogy and TPACK can be combined to create and continue an impactful new teacher induction program. An effective cyber charter induction program combines TPACK framework with Adult Learning. Using both theories to update the program would create a more authentic process, including new teachers in designing learning activities.

Summary of Results

In this mixed methods study, I collected and analyzed questionnaire responses, a focus group interview transcript, and journal entry data. All three data points provided a better understanding of how the induction program at CCS impacted participants' knowledge and skills to teach online, and their perceptions towards the program in preparing them for their new role. New teachers at the CCS had access to a broad range of professional development opportunities through induction. Through investigating the induction program at the CCS and eliciting new teachers' perceptions of the program, the aspects that stood out and relate to online teaching practices were: practical training focus, subject-specific mentors, on-going support, and access to exemplary subject-specific courses and lesson recordings.

Careful examination of the questionnaire, interview transcripts, and journal entries revealed participants' general sense of satisfaction with the induction program in preparing them to teach online. For quantitative results, I used 13 Likert scale questions to gather information from twenty participants on the characteristics of induction programs, quality of induction program, mentor experience, professional development embedded in induction such as New Teacher Academy, and additional supports for designing and delivering online lessons.

Additionally, a five Likert question scale was used to determine the perceived satisfaction of new cyber charter teachers with regard to their specific induction program in preparing them to teach online. Table 5.1 summarizes how mixed methods led to a better explanation. The table aligns the quantitative results with the related qualitative findings that account for those results.

Table 5.1

Joint Display of Data to Explain Participants' Perceptions of the CCS Induction Program

Online Teaching Function	Quantitative Results	Induction Component Identified in the Focus Group and Journal Data	Mixed Methods Integration
Navigating Key Technology	<p>90% of participants reported that they were adequately prepared to utilize a learning management system after Induction (M= 1.80)</p> <p>80% of participants also agreed that they perceived that the induction program prepared them to utilize a video conferencing tool to teach synchronous lessons. (M=1.85)</p>	Hands-on demonstrations, step by step tutorials, and the overall practical nature of the induction program as a whole	Mixed methods yielded a better understanding of participants' perception of the program in preparing them to utilize technology.
Designing Asynchronous Lessons	90% of participants agreed that induction enhanced their lesson preparation and development in an online environment. (M=1.90)	Same-subject Mentor, and Sandbox Courses, Best Practice/ Content Specific Exemplary Courses	Mixed methods yielded a better understanding of what specific elements of induction prepared them for asynchronous lesson design
Delivering Synchronous Instruction	<p>85% of participants' sessions have prepared me to deliver synchronous lessons in an online environment. (M=1.80)</p> <p>80% of participants felt that the induction program prepared them to deliver the curriculum in an online environment. (M=1.75)</p>	On-going Peer Support from Peer to Peer Collaborative Work and Example Lesson Recordings	Mixed methods yielded a better understanding of what specific elements of induction prepared them for synchronous instruction.

The Practical Focus of the Induction Program

For research question one, “How New Cyber Charter School Teachers Perceive Their Induction Program in Preparing Them to Teach in the Cyber Charter School Environment?,” the participants indicated that the induction program was effective in preparing them to teach in the cyber charter school environment. The results to Likert items 1, 4, 5, 11, and 13 on the questionnaire supported my qualitative results. Looking at the induction program as a whole, most respondents (80%) agreed and strongly agreed that they were well prepared to teach online after completing induction. For Likert item four, seventeen out of twenty participants agreed that the induction program included sessions on developing teaching strategies and digital pedagogies that prepared them to teach online.

In the focus group and journal entries phase, three participants shared more details on the induction program’s specific features that they perceived contributed most to their development as new online teachers. The participants reported that the induction program's practical nature with its inclusion of step-by-step demonstrations and utilization of technological resources enhanced their confidence in teaching online. Cyber charter teachers have unique needs for induction, including training on operating a learning management systems and other web-based tools and pedagogical training on the best practices for teaching online learners (McGee et al., 2017). The first phase of induction at the CCS is New Teacher Academy (NTA). During NTA, New teachers experience synchronous and asynchronous training through face-to-face sessions and learning modules located in Canvas. Participant A1 reflected on the NTA course stating,

The NTA modules were incredibly helpful to reference as I was trying to work with my courses and try new things. For example, as I was creating discussion lessons in my course I was able to re-watch the tutorials in the NTA course that walked me through the

steps for setting up students' responses and attaching a rubric. Through the tutorials, I gained confidence in using the features of Canvas on my own. I utilized the NTA course throughout my first year of teaching.

Various studies have assessed the efficacy of tutorials for training online teachers. Berry (2018) investigated the development of online teachers, and newer instructors shared that they benefited from training opportunities that allowed them to gain familiarity with the technology. Similar to the current study, the researcher found that newer teachers benefited from step-by-step demonstrations which allowed them to feel confident teaching inside a synchronous virtual classroom (Berry, 2018).

While studies on how induction programs enhance online teacher confidence are still lacking, extant literature has examined the importance of technological knowledge in enhancing the effectiveness of online teachers to provide online instructions. For example, for item 5, 90% of respondents agreed that they were intentionally trained and adequately prepared with skills to use technological resources in an online environment through the induction process. Gachago et al. (2017) reported that to create an engaging online learning module and empower students in virtual settings, teachers both experienced and new need to leverage technology. In order to leverage tools effectively, the CCS's induction program models high-quality online teaching and offers an effective and efficient environment for teachers to update their skills and beliefs. Further analysis of the collected data identified that the practical nature of the step-by-step demonstrations in the induction program enabled participants to develop a robust understanding of the technology, such as the LMS, Canvas, thereby enhancing their preparation and confidence in their ability to teach online. Participant A3 wrote in a journal entry that induction sessions “help me get more accustomed to working with an LMS for instruction. My anxiety about taking

an online teaching position went down around some of the basics of online design like setting up consistent navigation in my courses.”

Findings of the current study showed that participants perceived that the induction program played a critical role in improving their confidence. Worth noting, emerging digital technologies in education will continue to transform online environments and the education field as a whole; therefore, an induction program must be updated to stay current with the latest technologies and instructional design practices in online education (Ally, 2019). While there still lacks studies on cyber charter induction programs, these findings are critical because they add knowledge on the importance of induction programs in enhancing online teacher preparation.

Collaborating with Same-Subject Peers and Mentor Support

For research question two, “What are the perceptions of new cyber charter school teachers with respect to the induction program's ability to prepare them to design asynchronous lessons for a cyber-environment?”, all data sources of this study indicated that participants perceived that induction program was effective in preparing them to develop asynchronous lessons for a cyber-environment. All focus group participants gave positive feedback on how the induction program had developed their confidence in designing asynchronous lessons.

These results are concurred by quantitative results analyzed from survey questions. For instance, for item 3, most respondents (80%) agreed the induction program helped enhance their online lesson preparation and development. Additionally, Likert scale items 6, 7, and 9 supported the findings of the research question in the sense that after induction programs most respondents stated that they were confident in navigating the learning management system. Item 9 surveyed participants on their perceptions of induction in preparing them to utilize an LMS, and 80% of participants agreed with the statement. A key aspect of technology knowledge at The Cyber

Charter school is the LMS. During the induction program, new teachers are enrolled in a New Teacher Academy course in the LMS, Canvas. As students in the course, they can navigate lessons and contribute to discussions for the full online learner experience. The majority of participants (80%) shared that induction prepared them to deliver asynchronous lessons through a Learning Management system. Recent literature states that affordances of new teacher induction programs include increasing teacher confidence (Kane & Francis, 2013).

Two key components of induction that participants perceived contributed to building their confidence in designing asynchronous lessons. The first reported essential induction component was the new teacher having a mentor from the same subject area. The second was the new teacher having a shared collaboration or planning time with teachers in the subject area (Ingersoll, 2012).

Research on induction supports the value of the role of a mentor. Mentoring is a high need for new teachers (Brannon et al., 2009). When teachers begin the induction program at the CCS, they are assigned a mentor that is aligned to their content area and grade level. A new teacher receiving coaching from a mentor improves the quality and effectiveness of the induction program, and it enhances the practice of online teachers (Neufeld & Roper, 2003). For Likert item 13, 70% of participants agreed that their mentor provided support to them as a new teacher. During the focus group interview, all five participants specifically mentioned that same-subject mentors provided critical support when they began designing their own asynchronous lessons and modules. The effectiveness of mentorship programs for online teachers results from personalized experiences between the mentor and the mentee (Herman, 2012). Participant A5 shared that

During mentor sessions, I had the opportunity to trade resources and receive information that was directly applicable to designing lessons in my own course. I would leave mentor sessions with a list full of ideas to try out in my course, and it motivated me to create more engaging lessons for my students.

Participant A3 also reported that her content grade level partner was also her mentor and was also specialized in the same field. Scholars such as Tondeur et al. (2019) have concluded that new teachers that observe another teacher using technology in relation to a specific content area and specific pedagogical approach can be an important motivator for new teachers to integrate technology into their own practices (Tondeur, et al., 2019). Although this is a central motivator for the development of TPACK (Kaufman, 2015), simply having new cyber teachers view examples of online courses is helpful but not sufficient. In this respect, Lavonen et al. (2006) suggested a mixture of demonstrations and practical work. As such, the induction program at CCS works to familiarize new teachers with technological resources through demonstrations, tutorials, and mentor partnerships, that they integrate to enhance the online learning experience for their students (Downing & Dymont, 2013; Natale, 2011).

Furthermore, phase two participants also indicated the availability of same-subject peer groups with whom new teachers could exchange ideas and insights during induction and contributed to their preparation for asynchronous lesson development. A2 reported that tech coaches were helpful, supportive, and open to questions, which allowed her to get maximum support and mentorship from her teachers. Similar to other research, the interview and journal data supported that new online teachers need individualized or personalized support. Through a national survey of online teachers, Rice et al. (2008) noted that there is a need for more personalized mentorship programs for teacher needs that were rated as "very important"

including the use of communication technologies, time management, academic integrity, and student internet safety. Consequently, Baran and Correia (2014) reported that schools must offer targeted support to teachers about digital pedagogies and course design and encourage collaborative opportunities and promote teacher peer-to-peer support. From the discussions, it can be said that mentorship programs strengthen the effectiveness of induction programs in developing and enhancing the skills of new online teachers in preparing and developing asynchronous lessons. The above findings are clear that effective cyber charter induction programs must include same subject mentors who are also experienced in new teachers' needs.

Ongoing Peer and Staff Support

Finally, for the third research question; What Are the Perceptions of New Cyber Charter School teachers with respect to the Induction Program's Ability to Assure Effectiveness in Delivering Synchronous Lessons in a Cyber Environment?, one key theme emerged: Ongoing peer and staff support contributes to effective lesson delivery preparation. Looking at the quantitative data, for Likert item 8, 85% of participants reported that induction prepared them to deliver synchronous lessons in an online environment. Additionally, for item 10, participants were asked how prepared they were for using the synchronous technology video conferencing tool, Zoom, to teach lessons. Eighty percent of participants agreed with the statement.

During the focus group interview, participants elaborated on what aspects of induction prepared them for online synchronous instruction. Throughout the qualitative data, the ongoing support of same-subject peers and staff was cited as one way the program contributed to new teachers' preparation. During the focus group, Participant A1 shared that the induction guided practice sessions with her same-subject peers were most helpful before she taught her first synchronous lesson. In the practice sessions, they worked in small groups and focused on

utilizing the functions of the virtual classroom, Zoom, including sharing files and grouping students through breakouts. “It was like a test run before I actually had to navigate the tool with my students.” An ongoing learning opportunity for new teachers at CCS is Technology Tuesdays. Technology Tuesday are 25-45 minute zoom sessions that the educational technology team runs. Sessions focus on online teaching tools and strategies. Participant A2 shared in a journal entry that

One of the resources that I have utilized and loved are Tech Tuesdays. The sessions allow me to make connections and see these tools in action. The quick sessions throughout my first year allowed me to see how I can improve my course and gave me new ideas on how I can use certain tools in my course.

Additionally, participants described check-ins and feedback from other teachers in the same subject as valuable in preparing them to deliver lessons via video conferencing tools such as Zoom. Accordingly, the study participants also reported that staff responsiveness and accessibility played a critical role in preparing them for synchronous lesson instruction. Moreover, mentor responsiveness enabled new teachers to ask questions about lesson delivery. The effectiveness of induction programs in assuring the effectiveness of new teachers can be seen from the study conducted by Natale (2011). Natale (2011) posited that professional learning opportunities needed to focus on best practices that online teachers must possess to be effective online instructors.

Utilizing the Adult Learning Theory developed by Knowles (1970), induction programs work on feedback and experiences. Therefore, having peers in the same induction programs creates a sense of togetherness and confidence because it is a requirement for advancement. Moreover, getting the opportunity to share with peers from different subject areas and grade

levels prepares new online teachers to handle diverse students. For instance, A5 mentioned that it was a good experience sharing classes with beginner colleagues like herself. Feedback from support staff and mentors was also critical in assessing teacher level of preparation and in addressing emerging questions like in asynchronous lesson development and delivery. As discussed in question two of the study, getting support staff who are also experienced teachers enabled new teachers to deliver engaging lessons in Zoom. Similar findings were also reported by Baran and Correia (2014) who mentioned that targeted support to teachers was critical.

From the analysis of quantitative results, it is clear that induction program plays a major role in preparing new teachers at CCS for online instruction. For research question 3, which looked at new teachers' perceptions of the induction program in assuring effectiveness in delivering synchronous lessons, quantitative results were presented by Likert items 8, 10, and 12. Results from each item positively concurred with the presented qualitative results. In qualitative results, all five participants reported that induction programs effectively assured their ability to prepare lessons and conduct online classes. Most participants strongly agreed with item 8 and item 10 that after induction, they were well prepared to deliver synchronous lessons and utilize the video conferencing tool, Zoom.

A statistically significant relationship was found between the variables of division level and participants' perceptions of the induction program preparing participants to deliver synchronous lessons. Participants from the elementary division were in more agreement for Likert items 8 and 10, indicating that they perceived the induction prepared them to deliver online instruction more than the middle and high school teachers. This outcome raises the question of why the difference between the groups would be greater than chance would suggest. Middle school and High School teachers have a more content-specific focus in their use of

technology. They may benefit from differentiated support for professional growth in pedagogical practices to deliver synchronous lessons through Zoom. According to Mohr and Shelton (2017), professional development models that provided one size fits all might not meet the needs of teachers preparing to teach online or who are currently teaching online.

Exemplary/ Model Courses

Improvements can be made to the induction program in regards to preparing teachers for synchronous instruction. The CCS should develop an exemplary virtual lesson repository. The repository should include examples for each content area and grade level. This would allow new teachers to view and develop a better understanding of utilizing the technology to create an engaging synchronous environment. Based on participant feedback, the program should also incorporate more differentiated and grade-level specific collaborative experiences. Additionally, the school could invite more veteran teachers from each content area to attend induction sessions. The inclusion of exemplar online courses and lessons into the induction program is backed by research. Borup and Evmenova's (2019) participants attributed their perceived improvements in digital pedagogies and technology integration to exemplars and models provided in their online training course as well as their peer-to-peer interactions.

Limitations of the Study

There were several limitations in the methodology, analysis, and generalizability of the obtained findings. The use of the qualitative mixed-methods approach, member checking, constant comparative method, and NVivo helped me reduce these limitations.

Limitations in Methodology

The design of the study creates limitations. Mixed-method data collection can lead to certain ethical issues, including risks to confidentiality due to collecting identifying information

from participants in the qualitative phase of the study and the need to contact participants for follow-up information. Qualitative data collection can also place more time demands on participants. In addition, the ethical issue of respecting individual and underrepresented groups may arise in mixed methods (Creswell, 2015, p. 555). Another potential limitation is the amount of time it takes to gather the information needed to complete a thorough mixed-methods study (Creswell, 2015). This study was restricted to ten months and as the researcher. I used two phases in my study.

A key limitation in collecting data is time and in determining the accuracy and honesty of responses. For instance, I assumed that participants were forthcoming and honest in discussing their perceptions and experiences with regard to induction (Creswell, 2015). Questionnaires are prone to bias, misinformation, and irrelevant responses on survey questions. This particular study examined the new teacher's perception of induction programs and the quality of such programs in a specific school. Given that interviewed and surveyed teachers were from the school, they may not truthfully answer on the quality of induction programs for fear of defaming their school. Additionally, data for this study were collected at the end of the program. It is possible that the study would have been stronger if a pre-assessment of new cyber charter teachers was administered prior to the start of the program. In a future study, pre-and post-induction surveys could gather data on the levels of new teachers' TPACK, TPK, TCK, and TK.

Limitations in Analysis

The methods of analyzing qualitative and quantitative data also affected this study. For instance, I analyzed the data in three separate steps. To begin with, results for this study were collected in three ways; using survey questionnaires, interviewing focus groups, and analyzing and interpreting information and data in journal entries and these elements may have

deficiencies. Since the questionnaire contained Likert scale questions, participants could potentially exaggerate or underrate their level of preparedness to teach online. The focus group interview and journal entries alleviated the limitations by either validating information or highlighting contradictions for exploration. The setbacks mentioned above may limit the quality of information analyzed and overall the accuracy and applicability of the study results.

Limitations in Generalizability

Another potential setback for this particular study was in the generalizability of the presented findings. I chose to examine the Cyber Charter School's teacher induction program instead of any other cyber charter teacher induction program, as a convenience due to the researcher's employment at CCS. Therefore, the results might not be representative of a greater population. Additionally, this also limits the sample size. It is possible that a larger study including participants from multiple other cyber charter induction programs would produce results that are more generalizable.

The current study was conducted on one cyber charter school that limited the overall generalizability of the study. Using one charter school as a source of reference and primary data provided results that could only be used by the school where the study took place and there were possibilities that the recommendations made could not be applicable in other schools. Barbour (2019) presented that schools have different needs and, as such, induction programs for their new teachers. Another potential limitation to the generalizability of the findings is the geographical setting of the area of study. In addition to using one cyber charter school, the school was located in Pennsylvania, and schools from other regions were not included. Notably, this study's results may only be applicable to cyber charter schools in Pennsylvania and partially applicable to other regions due to differences in preservice teachers' needs to design and deliver online instruction

effectively. Correspondingly, the study targeted new teachers employed in a cyber charter school in Pennsylvania and involved twenty teachers in phase 1 of the study and only five in phase two of the study. The sample population was small, and although it yielded enough data for analysis, the results were limited in terms of applicability and generalizability over a wider population.

Implications for Educational Practice

This study has many implications for the school where I work, for me, as an educational leader, for the new teachers, and our students. This mixed-methods study is an initial step in understanding the importance of induction programs in preparing and supporting cyber charter teachers. Based on the results, new cyber charter teachers need to experience an induction program that matches the learning formats, topics, and technological resources that they will utilize in their new teaching role. During the program, it is essential to provide exemplar courses and encourage the application of strategies through sandbox courses. Research supports this adjustment of induction programs for online teachers. According to Kearns and Mancilla (2017), exposure to and application of course design standards and a collaborative review for course quality have been shown to positively impact teacher perceptions of the impact of course design on online learning. The researchers demonstrated that PD workshops that allotted time for application promoted the development of pedagogical practice in online teaching modes.

Furthermore, this study yielded several interesting unanticipated questions. For example, one of the significant findings in this study could be seen as pointing toward one demographic group. Elementary division participants were significantly more likely than high school and middle division participants to have higher perceptions of the induction program in preparing them to deliver asynchronous lessons. It makes sense to look more closely at grade levels and content areas of instruction for participants and investigate how the content and learning

opportunities prepare teachers for their specific roles. New high school and middle school cyber charter teachers may benefit from more content-specific guidance on the delivery of lessons through zoom and smaller homogenous collaborative opportunities throughout the induction program. Rhode et al. (2018) had similar results in their study on designing personalized online teaching professional development. Participants most commonly attributed their increase in pedagogical knowledge to the online professional development lessons that contained various examples and their discussions with same-subject peers.

In addition to more differentiated content-specific instruction in the induction program, there is also a need for greater modeling and mentor opportunities. Based on focus group and journal data, new teachers at the CCS would also benefit from experiencing high-quality online instruction, perhaps by participating in an exemplary course as a student. Other research seems to point toward the need further to investigate the importance of modeling for new online teachers. For example, Borup and Evmenova (2019) found that when preparing new online teachers for instruction, the critical ingredient is not putting training materials online; instead, it is modeling best practices. Modeling effective online instructional practices has been shown to help teachers expand their understanding of what is possible in online courses. By including more exemplary online courses and virtual lesson recordings across all content areas and grade levels throughout the induction program, new teachers will get a sense of what more experienced educators are designing in their online classes. By doing so, it may also increase new teachers' perceptions of their ability to teach online.

Preservice Teaching Programs

Participants shared in the focus group and journal entries that the amount of information they had to learn to become effective online teachers was overwhelming. Preservice teaching

programs could introduce online instruction practices and serve as a model for educating in an online or blended learning environment to better prepare educators to teach both online and face-to-face (Hathaway & Norton, 2017). Currently, preservice teaching programs remain tied to traditional standards for competencies, field placements, and technology integration frameworks that are not conducive to online teaching and learning.

Virtual Field Placements. Currently, few teacher preparation programs integrate opportunities to develop online teaching competencies (Trust and Whalen, 2020). In the future, preservice programs could partner and maintain research relationships with cyber charter and online schools. Partnerships between preservice programs and online schools could generate more Virtual Field Placement opportunities for student teachers. Making connections between pedagogy learned through coursework and application gained through field experience is one of the key objectives of an effective preservice teaching program. Through a virtual field experience, future educators could broaden their knowledge and skills necessary in the online setting (Graham et al., 2019). New educators could benefit from targeted support generated from traditional experience and build on it for use within a virtual field placement.

Standards for Online Teaching. To effectively utilize educational technologies, preservice teachers need to understand instructional philosophies, approaches, and online teaching models. Based on the research literature on preservice teaching programs, few colleges or universities incorporate online teaching standards or competencies. Preservice programs may adjust their curriculum to include aspects of the revised 2019 National Standards for Quality Online Teaching (NSQOT). NSQOT provides a framework to improve online teaching and learning. By incorporating the standards, it will introduce preservice teachers to the core competencies of effective online teachers and courses and establish a baseline knowledge of

online teaching for all future teachers (Kier & Clark, 2020). Additionally, the realities of the COVID-19 pandemic make the standardization of best practices for online education even more crucial, as students deserve quality online learning experiences. By introducing the NSQOT to undergraduates, preservice programs will better prepare teachers for various educational formats, including online, blended, and cyber charter settings.

Online Learning Opportunities. Teacher preparation programs may also consider exposing preservice teachers to Learning Management systems by providing them with sandbox courses or practice courses. Rethinking approaches and preservice program curriculum around identified online best practices and course standards can be a relevant and viable method to serve future online teachers (Moorhouse, 2020). Preservice teachers could apply strategies they learn throughout the program into an online course environment. The recommended adjustments to preservice programs are outlined in Table 5.2.

Table 5.2

Aspects of Teacher Preparation, Shifts, and Implications

Component	Adjustment of Program	Implication
Field Placement (Andragogy)	Partnering with Cyber Charter schools to introduce preservice teachers to online education & offer virtual field experiences	Field experiences moved into relevant online spaces, which may also require online supervision
Standards and Competencies (PK)	Including online standards of teaching throughout the program. Programs need to develop their own set of standards	Revising program curriculum to include online standard and competencies
Technology threaded through pedagogy & content knowledge (TPACK)	Education courses should include online components and online application of pedagogies and content knowledge	Preservice teachers are assigned sandbox/ practice LMS courses which they can use to build online experiences throughout the program

Implications for Future Research

Following the limitations of the current study, future scholars should consider improving and increasing the sample population for their study. The present study was conducted within the United States and in the state of Pennsylvania. Additionally, the study included only one cyber charter school. Therefore, future research should consider increasing the number of cyber charter schools from different states within the United States and outside the United States to address the generalizability of the findings. A large enough sample and diversified sample setting will provide recommendations that can be adopted by stakeholders from different states in the U.S and outside the U.S to enhance their induction programs in preparing online teachers. Consequently, the current study was limited by the research methodology and design used to collect and present the findings. According to Creswell (2015), mixed methods research is time-consuming in terms of data collection and analysis. Furthermore, examining for compatibility is a challenging task, a failure to which the presented results may not be accurate. Therefore, future scholars wishing to duplicate this study may consider utilizing quantitative correlational research design to investigate the quality of induction programs and novice teachers' success in effectively delivering quality online instruction. Moreover, future scholars might also decide to allocate more time for their studies to provide room for data collection and provide enough time for analysis.

While this study indicates that participants perceived the induction program at the CCS was effective in preparing them to teach online, more research is required to test each of the induction program components (e.g., sandbox courses, mentoring) for improving teaching practice in an online environment. Due to the time constraints of this study, participants were selected that already completed induction. A future study could assess new cyber charter teachers

before beginning the induction program and continue the evaluation throughout different program phases. Future researchers could also look at new cyber teacher effectiveness through student achievement and teacher evaluation scores.

Conclusion

This study focused on teachers' perceptions of their preparedness to teach online after completing an induction program at a cyber charter school. The data was collected through a questionnaire, focus group interview, and journal entries. The analysis of the results showed that the participants perceived the induction program examined in this study as critical to preparing them and enhancing their experience and knowledge in providing quality online teaching. With ninety percent of participants sharing after induction, they felt confident in teaching in an online environment, the findings of the study concurred with the results presented by Natale (2011) that induction programs boosted the confidence of novice educators in an online learning environment.

The results of the study also revealed a need for the induction program at the CCS to be more differentiated, collaborative, and allow time for exploration of content-specific exemplary lesson packages and virtual lesson recordings. In general, the study indicated mentor and veteran teacher support were two contributing factors in preparing new teachers for the delivery of synchronous instruction and the design of asynchronous lesson packages. In addition, the study also revealed that the elementary division teachers felt better prepared to deliver virtual lessons after completing induction.

This study reflected the perceptions of twenty new teachers from the CCS. As online education expands to allow more flexibility in learning, so should the preparation of new teachers who will be required to effectively instruct in virtual and blended formats. Additional

research is needed to continue to inform the field of education regarding effective digital pedagogies, educational technology frameworks, preservice, and induction programs that prepare teachers for online instruction.

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Appendix A: Consent Form for the Questionnaire

Project Title: New Cyber Charter School Teachers Perceptions of their Preparedness to Teach Online

Investigator(s): Courtney Kofeldt; Mimi Staulters

Key Information: My consent is being sought for a research study. I understand my participation is voluntary and I am under no obligation to participate. The purpose of this research is to explore New Teacher Induction and how it prepares teachers for online teaching. The time expected for my participation is about 20 minutes. The researcher is asking me to take a questionnaire. The potential risks associated with this study are loss of confidentiality and discomfort answering questions. The potential benefits of the study are improved resources and support for new online teachers. The only alternative to this study is not to participate. Participation in this research project is voluntary and is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher preparedness to instruct online. This research will help provide additional insights into induction programs at cyber schools and how they could possibly be adjusted to meet online teacher's needs.

The research project is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher induction programs. If you would like to take part, West Chester University requires that you agree and sign this consent form.

You may ask Courtney Kofeldt any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from Pennsylvania Leadership Charter School. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

1. What is the purpose of this study?

Many new online teachers have gaps in their knowledge of online learning and instruction. The success of cyber students directly connects with how prepared teachers are to instruct online. These gaps can be addressed with a cyber-school's onboarding and induction programs. The need for the study is based on three factors: (a) the need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the benefits of developing a better induction program that focuses on online teaching strategies.

1. If you decide to be a part of this study, you will be asked to do the following:
 - o take questionnaire
 - o This study will take about 20 minutes of your time.
1. Are there any experimental medical treatments?
 - o No
1. Is there any risk to me?
 - o potential discomfort answering items
1. Is there any benefit to me?
 - o There may be no benefit. Although, there is chance to win a \$50 amazon gift card.

1. How will you protect my privacy?
 - The session will not be recorded.
 - Your records will be private. Only Courtney Kofeldt, Mimi Staulters, and the IRB will have access to your name and responses.
 - Your name will not be used in any reports.
 - Records will be stored:
 - Password Protected File/Computer
 - Records will be destroyed on 9/01/2023, Three Years After Study Completion
1. Do I get paid to take part in this study?
 - No.
1. Who do I contact in case of research related injury?
 - For any questions with this study, contact:
 - Primary Investigator: Courtney Kofeldt at 610-462-8063 or kofeldtc@gmail.com
 - Faculty Sponsor: Mimi Staulters at 717-475-1607 or mstaulters@wcupa.edu
1. What will you do with my Identifiable Information?
 - No identifying information will be used in any report produced from this research. The research will be used to complete the dissertation requirement for the WCU Doctoral Program. Dissertations will be shared through Digital Commons, an open access journal owned by RELX Group, and may be shared through other publications in scholarly journals, and in conference presentations.

For any questions about your rights in this research study, contact the ORSP at 610-436-3557. I, _____ (your name), have read this form and I understand the statements in this form. I know that if I am uncomfortable with this study, I can stop at any time. I know that it is not possible to know all possible risks in a study, and I think that reasonable safety measures have been taken to decrease any risk.

Subject/Participant Signature Date: _____

Witness Signature Date: _____

Consent Form for Focus Group Interviews and Reflective Journals

Project Title: New Cyber Charter School Teachers' Perceptions of their Preparedness to Teach Online

Investigator(s): Courtney Kofeldt; Mimi Staulters

Key Information: My consent is being sought for a research study. I understand my participation is voluntary and I am under no obligation to participate. The purpose of this research is to explore New Teacher Induction and how it prepares teachers for online teaching. The time expected for my participation is approximately 75 minutes. The researcher is asking me to participate in a Focus Group Interview and a Journaling process. The potential risks associated with this study are loss of confidentiality and discomfort answering questions. The potential benefits of the study are improved resources and support for new online teachers. The only alternative to this study is not to participate.

Participation in this research project is voluntary and is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher preparedness to instruct online. Your participation will take about 30 minutes to complete the interview and about 45 minutes to complete all journal entries. This research will help provide additional insights into induction programs at cyber schools and how they could possibly be adjusted to better meet their online teacher's needs.

The research project is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher induction programs, and the affordances of developing a more robust induction program that focuses on online pedagogy and strategies. If you would like to take part, West Chester University requires that you agree and sign this consent form.

You may ask Courtney Kofeldt any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from the Pennsylvania Leadership Charter School. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

1. What is the purpose of this study?
 - o Many new online teachers have gaps in their knowledge of online learning and instruction. The success of cyber students directly connects with how prepared teachers are to instruct online. These gaps can be addressed with a cyber-school's onboarding and induction programs. The need for the study is based on three factors: (a) the need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the benefits of developing a better induction program that focuses on online teaching strategies.
1. If you decide to be a part of this study, you will be asked to do the following:
 - o complete interview and journal entries
 - o This study will take about 30 minutes of your time to complete the interview and about 45 minutes to complete the journal entries.
1. Are there any experimental medical treatments?
 - o No
1. Is there any risk to me?
 - o None
1. Is there any benefit to me?
 - o There may be no benefit. Although, there is a chance to win a \$50 amazon gift.
1. How will you protect my privacy?

- The session will be recorded.
 - Your records will be private. Only Courtney Kofeldt, Mimi Staulters, and the IRB will have access to your name and responses.
 - Your name will not be used in any reports.
 - Records will be stored:
 - Password Protected File/Computer
 - Records will be destroyed 9/01/2023, Three Years After Study Completion
1. Do I get paid to take part in this study?
 - One randomly selected participant will win a \$50.00 Amazon gift card. Email addresses of those who participated in, and completed the interview and journal entries will be placed in a paper bag. One email address will be drawn. The Amazon gift card will be electronically sent to the email address of the winner.
 1. Who do I contact in case of research related injury?
 - **For any questions with this study, contact:**
 - **Primary Investigator: Courtney Kofeldt at 610-462-8063 or KOFELDTC@GMAIL.COM**
 - Faculty Sponsor: Mimi Staulters at 717-475-1607 or mstaulters@wcupa.edu
 1. What will you do with my Identifiable Information?
 - No identifying information will be used in any report produced from this research. The research will be used to complete the dissertation requirement for the WCU Doctoral Program. Dissertations will be shared through Digital Commons, an open access journal owned by RELX Group, and may be shared through other publications in scholarly journals, and in conference presentations.

For any questions about your rights in this research study, contact the ORSP at 610-436-3557. I, _____ (your name), have read this form and I understand the statements in this form. I know that if I am uncomfortable with this study, I can stop at any time. I know that it is not possible to know all possible risks in a study, and I think that reasonable safety measures have been taken to decrease any risk.

Subject/Participant Signature Date: _____

Witness Signature Date: _____

Appendix B: Email Invitation to Participate in a Research Study

Participant,

My name is Courtney Kofeldt. I am a doctoral candidate in the Educational Leadership and Policy Studies at West Chester University. I am currently working on my dissertation research project on New Cyber teachers and their preparedness to teach online. I was given your contact by the Human Resource director at [REDACTED]. I am currently conducting a research study on New Cyber Teachers and their transition to online teaching and he thought you would be the right person to talk to and have a conversation with on this particular subject. I am looking for new teachers with no past online teaching experience. I am hoping that the outcome of my study will facilitate a better understanding of the new teacher experience with technology in the online environment, and establish the institutional or administrative support that needs to be extended to new teachers to help them succeed in their work. Your participation in this study will involve answering questions related to your use of technology in your online courses as well as sharing your perspective on the teacher support that is needed in order to teach in an online setting. Please let me know your willingness to participate in this study by replying to my email (ckofeldt@palcs.org).

The questionnaire will include demographic data questions, twelve Likert scale questions pertaining to your view of New Teacher Academy and the Induction program as well as three open ended questions. The questionnaire will take about 20 minutes to complete. At the end of the questionnaire, you can also express your interest in participating in phase 2 of the study which include Focus Group interviews as well as journal entries. This protocol has been approved by the WCU IRB 20200709A.

Please complete the questionnaire linked here:

https://wcupa.co1.qualtrics.com/jfe/form/SV_1Zg8zOLzSkPuQu1

If you selected yes for phase 2, you will be receiving follow up information regarding time specifics and journal prompts.

Thank you,

Courtney Kofeldt

Supervisor of Technology

Email Invitation to Participate in Focus Group Interviews and Journals

Hello,

Thank you for your willingness to participate in a focus group interview and reflective journaling for my study entitled, New Cyber Charter School Teachers' Perceptions of their Preparedness to Teach Online. The interviews will be coordinated through Doodle Poll and will take place via Zoom. The interviews will be recorded and are expected to take about 30 minutes of your time. Participants invited to participate in the focus group will also be asked to maintain an electronic journal of their professional collaborative experiences and their perceptions of these experiences for six weeks. You will be asked to use the journal at least twice per week for 6 weeks to explain your perceptions of the induction process or to express any professional reflections. The first prompt will ask you to focus on New Teacher Academy professional development. The

remaining five will ask you to reflect on the transition to online teaching, your use of online instructional tools and your perceptions of the induction program. The prompts will be shared via a Microsoft Document template created by the researcher. The Microsoft Document is encrypted to ensure the data and information is protected. The journal entries are expected to take about 45 minutes in total.

I have attached the interview and journal consent form to this email. Please read the consent form, sign it electronically and return it to me to indicate your participation. I will then send you a participant number and link to a Doodle Poll (doodle.com) to sign up for a focus group. Please use the participant number, rather than your name when you sign-up on the Doodle Poll. The Zoom invitation will be sent once the groups are formed. I will also include the link to the encrypted Microsoft Document where you can maintain your journal entries.

One participant will be selected randomly to win an electronic Amazon gift card for \$50.00.

Again, thank you for your willingness to participate in this research study.

Sincerely,
Courtney Kofeldt
Supervisor of Technology

Appendix C: Questionnaire

New Teacher Induction Questionnaire

Start of Block: Introduction

Project Title: New Cyber Charter School Teachers' Perceptions of their Preparedness to Teach Online

Investigator(s): Courtney Kofeldt; Mimi Staulters

Key Information: Key Information: My consent is being sought for a research study. I understand my participation is voluntary and I am under no obligation to participate. The purpose of this research is to explore New Teacher Induction and how it prepares teachers for online teaching. The time expected for my participation is about 20 minutes. The researcher is asking me to take a questionnaire. The potential risks associated with this study are loss of confidentiality and discomfort answering questions. The potential benefits of the study are improved resources and support for new online teachers. The only alternative to this study is not to participate.

Participation in this research project is voluntary and is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher preparedness to instruct online. This research will help provide additional insights into induction programs at cyber schools and how they could possibly be adjusted to meet online teacher's needs.

The research project is being done by Courtney Kofeldt as part of her Doctoral Dissertation to study new teacher induction programs. If you would like to take part, West Chester University requires that you agree and sign this consent form.

You may ask Courtney Kofeldt any questions to help you understand this study. If you don't want to be a part of this study, it won't affect any services from Pennsylvania Leadership Charter School. If you choose to be a part of this study, you have the right to change your mind and stop being a part of the study at any time.

What is the purpose of this study?

Many new online teachers have gaps in their knowledge of online learning and instruction. The success of cyber students directly connects with how prepared teachers are to instruct online. These gaps can be addressed with a cyber-school's onboarding and induction programs. The need for the study is based on three factors: (a) the need to train new teachers, (b) the limitations of traditional new teacher induction programs, and (c) the benefits of developing a better induction program that focuses on online teaching strategies.

If you decide to be a part of this study, you will be asked to do the following:

- take questionnaire
- This study will take about 20 minutes of your time.

Are there any experimental medical treatments?

- No

Is there any risk to me?

- discomfort answering items.

Is there any benefit to me?

- There may be no benefit.

How will you protect my privacy?

- The session will not be recorded.
- Your records will be private. Only Courtney Kofeldt, Mimi Staulters, and the IRB will have access to your name and responses.
- Your name will not be used in any reports.
- Records will be stored:

- Password Protected File/Computer

- Records will be destroyed 9/01/2023, Three Years After Study Completion

Do I get paid to take part in this study?

- No

Who do I contact in case of research related injury?

- For any questions with this study, contact:

- Primary Investigator: Courtney Kofeldt at 610-462-8063 or kofeldtc@gmail.com
- Faculty Sponsor: Mimi Staulters at 717-475-1607 or mstaulters@wcupa.edu

1. What will you do with my Identifiable Information?

- No identifying information will be used in any report produced from this research. The research will be used to complete the dissertation requirement for the WCU Doctoral Program. Dissertations will be shared through Digital Commons, an open access journal owned by RELX Group, and may be shared through other publications in scholarly journals, and in conference presentations.

Do you wish to continue?

- Yes (1)
- No (2)

Demographics

Please indicate your age by clicking on one of the categories.

- 21-23 (1)
- 24-26 (2)
- 27-30 (3)
- 31-34 (4)
- 35-39 (5)

- o 40-45 (6)
- o 46-50 (7)
- o 50-60 (8)

How many years of teaching experience do you have?

- o 0-1 (1)
- o 2-3 (2)
- o 3-5 (3)
- o 6 or more (4)

Please indicate the grade levels that you currently teach (check all that apply)

- Kindergarten (1)
- 1st grade (2)
- 2nd grade (3)
- 3rd grade (4)
- 4th grade (5)
- 5th grade (6)
- 6th grade (7)
- 7th grade (8)
- 8th grade (9)
- 9th grade (10)
- 10th grade (11)
- 11th grade (12)
- 12th grade (13)

Please indicate the subject(s) you currently teach (check all that apply)

- Multiple subjects (Elementary School) (1)
- Special Education (2)
- Mathematics (3)
- English/Language Arts (4)
- Social Studies (5)
- Science (6)
- Visual/Performing Arts (7)
- Physical Education (8)

Please indicate your level of experience with online learning, as a teacher or as a student, prior to this program

- o No previous online teaching experience (0 years) (1)
- o Little previous online teaching experience (1- 4 years) (2)
- o Extensive previous online teaching experience (over 4 years) (3)

In the state in which you teach, what type of teaching certification do you hold?

- Regular or standard state certificate or advanced professional certificate (1)
- Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period) (2)
- Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching) (4)
- Regular or full certification by an accrediting or certifying body other than the state (5)
- I do not have any of the above certifications in this state. (6)

What certification do you hold? Check all that apply.

- Early childhood/Pre-K, general (1)
- Elementary grades, general (2)
- Secondary education (3)
- Middle Level (4-8) (4)
- Special education (5)

What is the highest degree or level of school you have completed? *If currently enrolled, highest degree received.*

- Associate degree (1)
- Bachelor's degree (2)
- Master's degree (3)
- Doctorate degree (4)

Please indicate your level of agreement/disagreement with each of the following statements by selecting one of the responses in the Likert Scale model. Think about how well the statements describe your perceptions of your preparedness to deliver instruction in a cyber-environment, perceptions of your effectiveness in delivering instruction in a cyber-environment, and your perceptions of the factors that cause you to modify your instruction to increase your level of effectiveness and your ability to engage all learners in a cyber-environment.

	Strongly Agree (1)	Agree (2)	Neither agree nor disagree (3)	Disagree (4)	Strongly disagree (5)
1. After completing induction, I was prepared to teach online.	o	o	o	o	o

2. I have enrolled in a graduate education program to advance my preparation as an educator in an online environment.

0 0 0 0 0

3. Induction enhanced my lesson preparation and development in an online environment.

0 0 0 0 0

4. The induction program included sessions on developing teaching strategies and digital pedagogies that prepared me to teach online.

0 0 0 0 0

5. During Induction, I was intentionally trained and adequately prepared with the technology skills to utilize resources in an online environment.

0 0 0 0 0

6. During New Teacher Academy, induction and professional development offered at my online school, I was adequately prepared to utilize a learning management system.

0 0 0 0 0

7. The professional development available at my online school by outside educational consultants and experts in the field have adequately prepared me to develop lessons in an online environment.

0 0 0 0 0

8. The professional development sessions run by internal personnel at my school have prepared me to develop lessons in an online environment.

0 0 0 0 0

9. New Teacher Academy and induction programs prepared me to deliver asynchronous lessons through a Learning Management system

0 0 0 0 0

10. The New Teacher Academy and induction programs prepared me to teach synchronous lessons through a video conferencing tool.

0 0 0 0 0

11. I feel confident in teaching in an online environment.

0 0 0 0 0

12. I feel confident in accessing additional resources that support my online instruction.

0 0 0 0 0

13. My peer partner and/or mentor provided support to me as a new online teacher.

Answer each of the open-ended questions below. Please address each opened-ended question as comprehensively as possible. What were the determining factors that influenced your decision to teach online?

In your professional opinion what are the most essential qualities a K-12 online educator must have to be an effective teacher?

Describe how you were prepared or how you prepared yourself to instruct students online?

Are you interested in participating in the second phase of this study which includes focus group interviews and journal entries.

- Yes. (1)
- No (2)

Skip To: End of Survey If Are you interested in participating in the second phase of

Please share your first name and email address so the researcher can contact you with more information regarding the study.

Appendix D: Focus Group Interview Guide

Topic: New Cyber Charter School Teachers' Perceptions of their Preparedness to Teach Online

Research Questions:

- How do New Cyber Charter School Teachers' cyber teachers perceive their induction program in preparing them to teach in the cyber school environment?
- What are the perceptions of New Cyber Charter School Teachers' with respect to their induction program, preparing them to develop asynchronous lessons for a cyber-environment?
- What are the perceptions of New Cyber Charter School Teachers with respect to their effectiveness in delivering synchronous lessons in a cyber-environment?

Interview Guide

Background/Intro to Topic:

1. Tell me how you came to be an educator and about your current teaching role.
2. Taking your mind back to before you started teaching at Cyber Charter school, could you tell me what online learning experiences you may have had?
3. What certifications, courses or training did you participate in to familiarize yourself with technology before transitioning to teach online classes?

Exploration:

4. How did Induction help familiarize you with Learning Management systems and discussion forums? How about the video conferencing tool, Zoom?
5. After New Teacher Academy and induction, How confident are you about your ability to utilize technology tools in designing asynchronous online lessons?
6. What were the most beneficial component/s of NTA and Induction that have helped you with the delivery of synchronous online lessons?
7. What could be added to induction/NTA to better prepare you for your transition into online teaching?

Additional Insight:

8. What institutional support have you received since beginning to teach online courses?

9. What institutional support would you recommend a teacher seek before transitioning from teaching face-to-face to teaching online?

Summarizing

10. Is there anything else that you would like to add that might help in understanding your experience with induction and your transition to online teaching?

Appendix E: Journal Prompts

1. Reflection: Please use the questions below to compose your two journal entries:
 - a. What is your overall impression of Induction?
 - b. What parts were the most beneficial?
 - c. What areas could be improved to better meet the needs of new online teachers?

2. Reflection: Please use the questions below to compose your two journal entries:
 - a. How have you been prepared to deliver synchronous lessons through video conferencing tools such as Zoom?
 - b. How have you been prepared to design online asynchronous lessons in an LMS?
 - c. What could be included in the induction program to better prepare you for the delivery of synchronous lessons and the design of asynchronous lessons?

3. Reflection: Please use the questions below to compose your two journal entries:
 - a. What resources have you found to be the most beneficial as you began your career as an online educator?
 - b. What aspects of online teaching do you feel the most confident?
 - c. What aspects of online teaching do you feel are your weakest?

Appendix F: IRB Approval



Office of Research and Sponsored Programs | West Chester University | Wayne Hall
West Chester, PA 19383 | 610-436-3557 | www.wcupa.edu

TO: Courtney Kofeldt and Mimi Staulters

FROM: Nicole M. Cattano, Ph.D.
Co-Chair, WCU Institutional Review Board (IRB)

DATE: 7/9/2020

Protocol ID # 20200709A

This Protocol ID number must be used in all communications about this project with the IRB.

Project Title: New Cyber Teacher Induction: New Teacher Perceptions of Induction Programs in Preparing them to Teach Online

Date of Approval: 7/9/2020

Expedited Approval

This protocol has been approved under the new updated 45 CFR 46 common rule that went in to effect January 21, 2019. As a result, this project will not require continuing review. Any revisions to this protocol that are needed will require approval by the WCU IRB. Upon completion of the project, you are expected to submit appropriate closure documentation. Please see www.wcupa.edu/research/irb.aspx for more information.

Any adverse reaction by a research subject is to be reported immediately through the Office of Research and Sponsored Programs via email at irb@wcupa.edu.

Signature:

A handwritten signature in black ink, appearing to read "Nicole M. Cattano".

Co-Chair of WCU IRB

WCU Institutional Review Board (IRB)
IORG#: IORG0004242
IRB#: IRB00005030
FWA#: FWA00014155

Appendix G: The Cyber Charter School's Inductee Competencies

Inductees will gain the following competencies through their participation in the [School Name] Induction Program:

Competency 1- Professionalism and Investment

- **C1.1** Teachers will abide by the PA Code of Professional Practice and Conduct.
- **C1.2** Teachers will demonstrate professionalism in the workplace.
- **C1.3** Teachers will meet educator responsibilities set forth in the PALCS Employee Manual and the Guidelines for Instructional Staff.
- **C1.4** Teachers will demonstrate a commitment to school initiatives, as contributing faculty members.
- **C1.5** Teachers will gain knowledge of PDE Teacher Effectiveness and the Pennsylvania Value-Added Assessment System.
- **C1.6** Teachers will demonstrate an understanding of Teacher Evaluation of Professional Practice, the Domains of the Charlotte Danielson Framework and the use of PA-ESEP.

➤ **C1.7** Teachers will understand the power and purpose of reflection in professional practice and demonstrate the use of self-reflection.

**Competency 2- ESSA, PA Future Ready, Online Education and
Cyber Charter Schools**

➤ **C2.1** Teachers will grasp the essential elements of ESSA and PA Future Ready.

➤ **C2.2** Teachers will learn what a cyber charter school is, how it functions, and the role it plays in alternative schooling.

➤ **C2.3** Teachers will learn what online education is, understand its purpose, and explore online teaching practices.

➤ **C2.4** Teachers will understand and align teaching practice to ISTE and iNACOL Standards.

Competency 3- Understanding Student Demographics, Diversity and Mental Health Needs

➤ **C3.1** Teachers will recognize the impact of diversity, economic status, and cultural bias in educational practice and strive to provide equity for all learners.

➤ **C3.2** Teachers will engage all students in the learning process to yield strong student results.

➤ **C3.3** Teachers will create and maintain a high-quality online learning environment.

➤ **C3.4** Teachers will establish communication and customer service skills for building relationships with students.

➤ **C3.5** Teachers will support the social-emotional well-being of students.

**Competency 4- Standards-Aligned System, Standards,
Curriculum and Long-Term Planning**

- **C4.1** Teachers will use a Standards-Aligned System.
 - Teachers will use resources to support standards-based instructional practices.
 - Teachers will demonstrate alignment of standards, essential questions, instruction, and assessment.
- **C4.2** Teachers will design relevant, real-world, curriculum-aligned instruction by implementing strong teaching strategies and methodologies.
- **C4.3** Teachers will present evidence of planning: Topics and Concepts, Instruction of Essential Questions, and Year-Long Scope and Sequence.
 - Teachers will be able to identify desired outcomes, acceptable evidence, and their path of instruction for each topic.
 - Teachers will demonstrate an understanding of the principles of Backward Design through unit planning.
 - Teachers will establish skills to provide appropriate interventions to improve learning.
- **C4.4** Teachers will show evidence of the ability to use the available technology for long-term planning.

Competency 5- Research-based & Brain-based Instructional Strategies

- **C5.1** Teachers will demonstrate an understanding of and implement the key elements of teaching effectively online in both the synchronous and asynchronous setting.
- **C5.2** Teachers will demonstrate techniques of online instruction, resulting in increased student engagement and learning.
- **C5.3** Teachers will demonstrate the understanding of differentiation and brain-based instructional strategies which support diverse learners to enhance processing, memory, and improve learning to accommodate for individual student needs.
- **C5.4** Teachers will learn and apply brain-based teaching practices and instructional strategies.
- **C5.5** Teachers will demonstrate the effective use of available technology to engage and deliver content to students.

Competency 6- Research-based & Brain-based Assessment

Strategies

- **C6.1** Teachers will demonstrate their understanding of the functional differences between formative and summative assessments.
- **C6.2** Teachers will develop a variety of formative assessments throughout each unit that can be used to inform and drive instruction.
- **C6.3** Teachers will develop a summative assessment for each unit and show evidence that the assessment directly measures students' understanding of state standards and assessment anchors.
- **C6.4** Teachers will learn to provide effective detailed feedback to support the growth of each learner.
- **C6.5** Teachers will effectively use data to measure student learning and inform instruction.
- **C6.6** Teachers will show evidence of the ability to use the available technology to assess student learning.

**Competency 7- Research-based & Brain-based Educational
Technology Programs, Tools, and Applications**

- **C7.1** Teachers will learn how to effectively use educational technologies in our online environment.
 - By year 2, teachers will demonstrate the ability to independently research and select appropriate educational technology tools for their desired lesson specific objectives and outcomes.
- **C7.2** Teachers will demonstrate the ability to use tools and enhancements in Canvas to effectively design learning modules and assess student learning.
- **C7.3** Teachers will demonstrate the ability to use Zoom for virtual synchronous instruction.
- **C7.4** Teachers will demonstrate the ability to use relevant additional technology to increase student engagement, foster collaboration and empower students in their learning (GSuite, NearPod, VoiceThread).
- **C7.5** Teachers will be able to create a variety of assessment opportunities by having students leverage educational technology tools to design products that will demonstrate their knowledge.

Appendix H: Interview Transcript Coding with NVivo

The screenshot displays the NVivo software interface for coding an interview transcript. The main window shows a document titled "Focus Group Transcription (1)". The transcript text includes several paragraphs, with some highlighted in yellow. A list of code strips is visible on the right side of the interface, each with a colored bar indicating its application to the text.

Files Panel:

Name	Codes	References
Dissertation	0	0
Focus Group	20	102
Journal Entry	9	21
Journal Entry	16	43
Journal Entry	14	25
Journal Entry	14	35
Journal Entry	9	15
Mixed Metho	0	0

Transcript Text:

Induction, being able to go through canvas was helpful because I never even heard of canvas prior to coming to PALCS. So I felt like that was a nice introduction.

And I liked the way that a new teacher Academy, we had like our own camp courses. And I still use my camp course from time to time to like make and test new things, which I really liked what I have to do in my actual courses. Sandbox course to practice them, which is really nice as well.

Participant 1: I liked that we had all the different modules broken down, like to work through, but that we had teacher experts, showing us what to do as we were going. If we were left to [00:15:00] do it on our own. That would have been really difficult, but it made it a lot easier and more beneficial to, to have that share and to see you do what you're doing and we can follow along.

Participant 2: I mean that just for all the content that we covered that made it so that you could digest it and go back and reference things later, too, if you needed to. And I think to go along that too, with like having those people to help and support, I love that you have those tech coaches that are actually teachers that where they're actually utilizing those tools and using them.

So it's not just someone that is like brought in from that actual tool. That's sitting here telling us how to use it. And you're like, okay. But really, as a teacher, how does that work? And so to have that, relate-ability where they're like, well, this is how I would use it in math, or this is how I would use it in science.

And you're like, Oh, well, that that's wonderful. And then the fact that those people are so helpful. That if you reach out to them, like even now, you [00:16:00] know, I'm in the middle school, but if I send a message to Paula Bridgewater, she's so willing to respond back to me. Um, and even though that I've never met her because of the, you know, the crazy pandemic we're in and we've never seen these people, um, they're so willing just to respond and help.

If you have like little navigation. Um, glitches or things that they need help with. So that's been super, super helpful is that just it's a network of people and not just concepts that are kind of thrown at you. And I've gone through new hire trainings at all the schools that I've been at. This one by far exceeds, I think all of the ones that I've gone through. It's the most thorough, and I'm not sure if it's just because of the platform and the way it needs to be handled.

I felt way more prepared in the two, three weeks that I went through here than I did at other schools that I worked at. And I don't know if it's that I had teaching experience so I

Code Strips:

- cover for you to respond
- confidence in ability to develop lessons
- Research more than with peers
- Preparation practical
- Orientation for new and experienced teachers
- Expert support and peer support on tech knowledge
- Supportive teacher peers
- Expert demonstration contributed to lesson development productivity
- Alignment of EdTech and content focused teacher confidence in lesson development
- Balance time between content and tech preparation
- Eng. Program preparation to teach
- Theme 1: The practical nature of the induction program effectively prepares and builds confidence in new teachers
- Eng. Program content effectiveness in addressing equity
- Theme 2: New supports (i.e. supports and training) built in
- Theme 2: New subject area and content support contribute to effective lesson development
- Content delivery

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